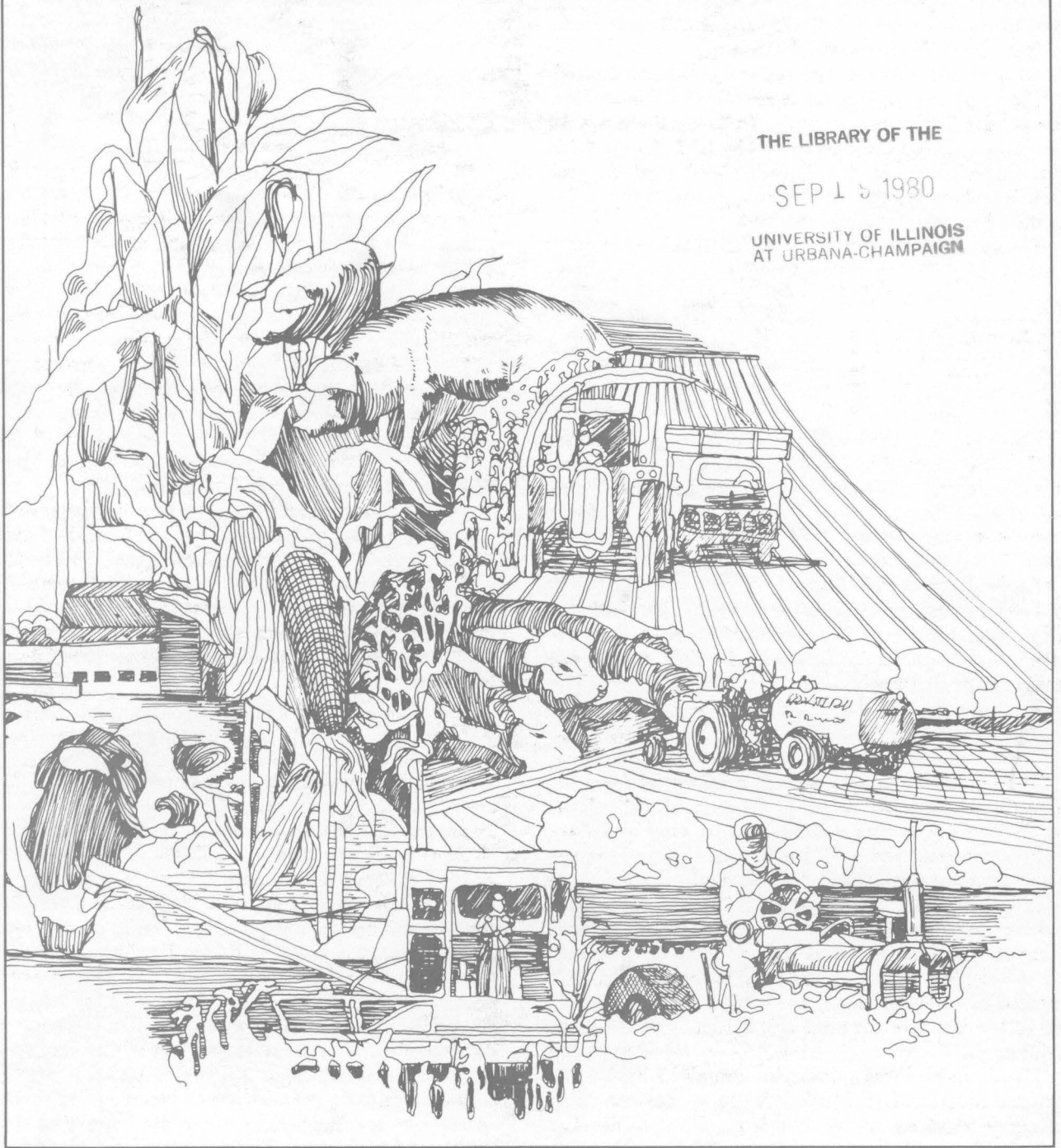


# 1979 55th annual SUMMARY OF ILLINOIS FARM BUSINESS RECORDS

THE LIBRARY OF THE

SEP 15 1980

UNIVERSITY OF ILLINOIS  
AT URBANA-CHAMPAIGN



COMMERCIAL FARMS: Production / Costs / Income / Investments

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN / COLLEGE OF AGRICULTURE / COOPERATIVE EXTENSION SERVICE

CIRCULAR 1179

## Source of Data

This report is based on data obtained from farm business records on 8,092 Illinois farms. It is the 55th in a series of annual summaries of such records obtained from farmers cooperating with the University of Illinois Cooperative Extension Service, the Department of Agricultural Economics, and the Illinois Farm Business Farm Management Association.

At present about 1 out of every 5 commercial farms in Illinois of over 500 acres is enrolled in this service. The service has grown steadily. In 1980, there are 10 associations in 102 counties served by 67 full-time fieldmen. Participation in this farm-business analysis program is voluntary, and cooperating farmers pay a fee for the educational services received.

The development since 1940 is shown below.

Year	Associa- tions	Counties partici- pating	Fieldmen employed	Farmers enrolled
1940.....	3	23	3	680
1950.....	8	59	15	2,760
1960.....	10	100	33	5,494
1970.....	10	102	42	6,553
1979.....	10	102	67	8,092

Estimates for 1979 indicate that 86 percent of the 8,092 farms covered in this report are above 240 acres. This 86 percent falls largely within the size of business that includes farms selling \$40,000 or more of farm products a year. In the 1974 Census of Agriculture, farms selling \$40,000 or more accounted for 79 percent of all sales from Illinois farms.

The segment of Illinois agriculture that includes farms with more than 180 acres per farm is often referred to as "commercial farming." In 1974, there were 54,984 farms in Illinois with more than 180 acres. The

figures that follow, taken from the 1974 Census of Agriculture, show that these farms represented 63 percent of the 87,002 farms of over 50 acres in size and produced more than 95 percent of the agricultural products sold from Illinois farms.

Acres per farm	Percent of total farms over 50 acres	Percent of census farms enrolled in FBFM	Number of farms enrolled in FBFM
180-499.....	46.1	9.4	3,768
500-999.....	14.5	21.4	2,696
1,000-1,999.....	2.4	26.1	543
2,000+.....	.2	17.9	40

Although the 1979 recordkeeping farms covered in this report are largely within the two smaller-size groups, the figures show that they are not distributed proportionately among the groups. There were 2,304 farms with more than 1,000 acres in 1974. About a fourth of these farms (25.3 percent) were enrolled in the Illinois Farm Business Farm Management Association. Of the 12,596 farms in the group having 500 to 999 acres, 21.4 percent participated in the farm record program. Only about 5 percent of the farms enrolled had less than 160 acres. The average size of all farms enrolled in 1979 was 535 acres, compared to an average of 247 acres for all Illinois farms.

The data presented in this report are group averages identified by size of business, type of farm, and quality of soil found on the farm. Where segments of Illinois agriculture are identified by these criteria, the data from recordkeeping farms may be used with reasonable confidence, even though the recordkeeping farms as a group do not represent a cross-section of all commercial farms in the state.

## Uses for This Report

The management of a modern commercial farm involves decisionmaking in the application of technology, the choice of a proper combination of crop and livestock enterprises, and effective business administration of the farming operations. A basic analysis of a farm business involves a careful study of past performance to detect problem areas and strengths in the farming operation. Also involved is the process of planning and developing future operations to realize the full potential of the land, labor, and capital resources available and to improve the economic efficiency of the farm business.

The farm-business summaries contained in this report are used by individual farmers to analyze their business operations and as a basis on which to develop plans for future farming operations. This report summarizes the information so that specialists working in agricultural extension, research, and teaching, and agribusiness activities may use the data to help them perform their duties effectively. The definition of terms and

accounting measures on the following page will be of assistance in using the data.

In the first part of the report (Tables 2 to 6), recent changes in farm income on Illinois farms are summarized. Economic forces and factors that contribute to these changing trends are identified. Some data used in the text are drawn from previous issues of this report.

In the second section (Tables 7 to 16), detailed livestock enterprise data are presented. These data provide comprehensive and detailed information for use as resource data by all who are interested in livestock production. Because a large proportion of the feed grains and roughages produced on Illinois farms is marketed through livestock, the margins of income from livestock enterprises are important in interpreting the economic results of farming operations.

The third section (Tables 17 to 22a) reports costs, returns, financial summaries, investments, land use, and crop yields for different sizes and types of farms in northern and southern Illinois.

## DEFINITION OF TERMS AND ACCOUNTING METHODS

### Soil-productivity rating

This is an average index representing the inherent productivity of all tillable land on the farm. Individual soil types on each farm are assigned an index ranging downward from 100. All ratings were revised in 1971 to reflect a basic level of management as outlined in Illinois Extension Circular 1156, "Soil Productivity in Illinois," and new land values were assigned. The change in land values represents an accounting adjustment to bring land values to current market levels.

### Hay equivalents, tons

To get the equivalents, we took the total of  $1.0 \times$  pounds of hay,  $0.45 \times$  pounds of hay silage,  $0.33 \times$  pounds of corn silage, and  $24 \times$  pasture-days per feed unit, times the total feed units per cow, divided by 2,000.

### Type of farm

**Sampling technique.** Data from all records certified for analysis by fieldmen were aggregated by size (acres), type of organization, value of the feed fed, and soil-productivity rating. Electronic data-processing was used to summarize the data.

**Grain farms.** Farms where the value of the feed fed was *less* than 50 percent of the feed and grain returns and where value of feed fed to dairy or poultry was not more than a sixth of the feed and grain returns. Since 1973, farms with livestock essentially have been excluded from the sample of grain farms in northern Illinois in Table 17 and since 1978, from the grain-farm sample in Table 18.

**Hog or beef farms.** Farms on which the value of feed fed was *more* than 50 percent of the feed and grain returns and either hog or beef-cattle enterprises received more than half of the value of the feed fed.

**Dairy or poultry farms.** Farms where the value of feed fed was *more* than 50 percent of the feed and grain returns and either the dairy or poultry enterprises received *more* than a third of the value of the feed fed.

### Cost items

**Value of feed fed.** Includes on-the-farm grains with the following average prices per bushel: corn, \$2.44; oats, \$1.42; and wheat, \$3.74. Commercial feeds were priced at actual cost, hay and silage at farm values, and pasture at 35 cents per animal unit per pasture-day. A pasture-day represents an intake of approximately 20 to 25 pounds of dry matter, defined as 16 pounds of total digestible nutrients (TDN) from pasture.

**Cash operating expenses.** Includes the annual cash outlays for these nondepreciable items: fertilizer; machinery repairs; machine hire; gas and oil; the farm share of electricity, telephone, and auto expenses; hired

labor; seed and crop expenses; taxes; building repairs; livestock expenses; insurance; and miscellaneous expenses. Does not include purchased feed and livestock because these have been deducted from gross receipts in computing the value of farm production. The interest paid is not included because an interest charge is made on the total farm investment.

**Machinery and equipment.** Includes depreciation, repairs, machine hire, gas and oil, and the farm share of electricity, telephone, and auto.

**Labor.** Includes hired labor plus family and operator's labor charged in 1979 at \$925 a month.

**Interest charge on capital.** Covers the interest charged at 9 percent on the average of the January 1 and December 31 inventory of remaining capital investment in grain, livestock, machinery and auto, buildings, and soil fertility, plus 3.5 percent interest on bare land priced at current land values to reflect landlord net rents received.

**Total nonfeed costs.** Includes cash operating expenses, depreciation, and charges for unpaid labor and interest. Purchased feeds and livestock are omitted.

**Value of land (current basis).** A basic value on bare land is established for each farm according to the soil-productivity rating. This basic value is adjusted each year according to the February index of land prices in Illinois, as reported by the USDA.

### Return items

**Feed and grain return.** This is the sum of grain and feed sales, the value of all feed fed (except milk), and the change in value for feed and grain inventories, less the value of feed purchased.

**Value of farm production.** The total is for cash sales of products and services, less the cost of purchased feed and livestock, plus the change in inventory values for grain and livestock, plus the value of farm products consumed.

**Net farm earnings.** Value of farm production, less cash operating expenses and depreciation. This figure includes the return to the farm and family for unpaid labor, the interest on invested capital, and the returns to management. Before 1978, this item was identified as farm and family earnings.

**Labor and management earnings.** We take net farm earnings, less the value of family labor and the interest charge on capital invested. This figure is the residual return to operator's labor and management efforts.

**Capital and management earnings.** The number is net farm earnings, less a charge for all unpaid labor.



**Management return.** This is the residual surplus left after a charge for unpaid labor and an interest charge on capital are deducted from net farm earnings.

**Rate earned on investment.** Capital and management earnings (interest on all capital plus management returns) per \$100 of the total farm investment.

## RECENT CHANGES IN INCOME ON ILLINOIS FARMS

### Farm business trends in 1979

Illinois agriculture is based largely on crop production, especially corn and soybeans. In 1979, Illinois ranked first in the nation in the production of both corn and soybeans. The total value of the corn and soybeans produced on Illinois farms was 17 percent of the total U.S. production for these crops. In 1978, the total value was 60 percent of the total cash receipts in Illinois from all crops and livestock, and 92 percent of the cash receipts from all crops sold by Illinois farmers.

**Crops.** Year-to-year variations in net farm income are related to the crop yields, grain prices, and acres in high cash-value crops. In 1979, the average corn yield for Illinois increased by 17 bushels per acre over the figure for 1978. Recordkeeping farms averaged 134 bushels per acre in 1979, compared to 117 bushels in 1978. Also, the Illinois soybean yield averaged 5 bushels higher in 1979 than in 1978. The prices received for soybeans sold during the year averaged 68 to 78 cents above the 1978 prices. The corn prices received in 1979 averaged 25 cents more than in 1978. Wheat sold for about \$1 higher per bushel during the year (Table 1). The corn acreage in 1979 dropped another 1 percent compared to 1978. The wheat acreage in 1979 increased 30 percent, and the soybean acreage went up 5 percent above the previous year. At 211, the Illinois all-crop production index for 1979 was up 17 percent over 1978 (1957-1959 = 100).

Corn planting began late but finished ahead of average because of favorable weather in mid-May. Adequate moisture from a wet spring allowed the corn to develop

with little moisture stress during a dry period extending from mid-June to mid-July. Most of the state experienced good growing conditions during the pollination period. Excellent harvest conditions kept harvest losses and disease problems to a minimum. Soybean planting was delayed as a result of setbacks in corn planting caused by a wet spring. By the first of June, however, progress was ahead of normal; and planting was completed around mid-June. The crop condition was reported as good to excellent with plant development near the average. Harvest activities began about the usual time in mid-September and proceeded at an above-average rate under excellent harvesting conditions. The harvest was completed about a week ahead of normal.

The average corn yield of 128 bushels per acre for the state reported by the Illinois Crop-Reporting Service for 1979 was 17 bushels above the average yield of 111 bushels in 1978 and 11 bushels more than the previous record set in 1975. For soybeans, the state average of 38.5 bushels per acre was up by half a bushel from the former record set in 1977. Crop yields on the 8,092 recordkeeping farms covered in this report averaged about 5 percent higher than the average for all Illinois farms, as reported by the Illinois Crop-Reporting Service.

### Livestock

A second major determinant of change in farm income is the price farmers receive for livestock and livestock products. In 1979, the average market prices received by farm recordkeepers in the Illinois FBFM Association were higher than in 1978 for all livestock and livestock products except hogs (Table 1). For all weights of hogs, comparing 1978 and 1979, the prices averaged 14 percent lower; for fed cattle, 30 percent higher; and for milk sold up 14 percent. The prices paid for all weights of feeder cattle purchased continued to go up, averaging 40 percent above the 1978 figures and more than twice as high as in 1977. Fed cattle prices averaged 12 percent more at the end of 1979 than in January, while hog prices averaged 26 percent lower.

**Table 1. — Average Prices Received and Paid by Farm Recordkeepers**

	1979		1978	
	Northern Illinois	Southern Illinois	Northern Illinois	Southern Illinois
<b>Grain prices per bushel</b>				
Purchased — corn ...	\$2.35	\$2.35	\$2.06	\$2.04
Sold — corn .....	2.36	2.40	2.10	2.15
soybeans .....	6.91	6.85	6.13	6.17
wheat .....	3.96	3.75	2.77	2.83
<b>Livestock prices per cwt.</b>				
Hogs, all weights ....	\$41.17		\$47.58	
Fed cattle, all weights .	65.82		50.59	
Feeder cattle, all weights, prices paid .	81.14		57.77	
Dairy cattle, all weights	60.94		40.89	
Sheep, all weights ....	68.93		60.02	
Milk per cwt. ....	11.56		10.16	
Eggs, dozen .....	.51		.50	

### Labor and management earnings

The average operator's share of labor and management earnings for 1975-1979 from all northern Illinois recordkeeping farms (those north of a line from Kankakee to Moline) was \$14,081 per farm. Operators on 1,890 grain and hog farms in central Illinois had five-year average earnings of \$20,226 (Table 2). Central



Illinois is the area between the Kankakee-Moline line on the north and a line from Mattoon to Alton on the south. The smaller farms and variable soil quality in northern Illinois contribute to lower earnings from crops. The farms there typically have lower crop yields than those in central Illinois. The recordkeeping farms in northern Illinois averaged 434 tillable acres per farm, compared to 509 tillable acres on farms in central Illinois. The labor and management earnings varied considerably, depending on the location and type of farm. For 1975-1979, operators in southern Illinois averaged \$17,113.

The labor and management earnings for all areas of Illinois averaged \$20,021 per farm in 1979. This was \$2,972 above the 1975-1979 average of \$17,049. The grain-producing areas of the state showed higher earnings. The livestock areas, except for dairy enterprises, had lower earnings.

The earnings (salary) for the operator of the farm — whether tenant or part-owner — were for the labor and management provided by the operator. The level of earnings received is a measure of overall farming efficiency and includes compensation for the risk involved. The earnings include the operator's gross sales and net change in inventory, reduced by cash operating expenses, depreciation, a charge for the unpaid family labor, an interest charge of 9 percent on nonland assets, and a charge for the use of land equivalent to average net rents received in 1974-1978 by landowners from land rented under crop-share leases. The recordkeeping farms in the Illinois FBFM Association are larger than the average for all farms in the area. The earnings shown do not include the rental value of dwellings on rented farms or income from nonfarm sources.

### Income changes on Illinois farms

Comparative costs and returns between years and among major types of farming operations in northern and southern Illinois are reported in Tables 4, 5, and 6. The separation of farms into northern and southern Illinois is based on soil-type regions, dividing the state approximately on an east-west line from Mattoon to Alton. The sample of farms was 340 to 499 acres for grain, hog, and beef farms, averaging 418 acres. The dairy farms ranged from 260 to 339 acres and averaged 293 acres. Labor available on farms of this size averaged 15 months on grain farms, 22 months on hog farms, 17 months on beef farms, and 21 months on dairy farms. The data in the tables are presented as if the farms were all owner-operated. For leased farms, the landlord and tenant shares of the business were combined. Between 55 and 75 percent of the land in Illinois is tenant-operated, depending on the location, primarily under crop-share and livestock-share leases.

Size of farm, type of farm, quality of soil, and managerial inputs have been held reasonably constant by the sampling procedure used in selecting farms within each category. Variations among figures for 1978, 1979, and the five-year average are due to changes in farm prices

**Table 2. — Operator's Share of Labor and Management Earnings by Size and Type of Farm (1975-1979 Average)**

	Number of acres per farm			
	Under 340	340-649	650+	All
<b>Northern Illinois</b>				
Acres of tillable land . . .	223	426	835	434
Labor and management earnings by type of farm				
Grain . . . . .	\$ 8,246	\$14,721	\$25,998	\$16,392
Hog . . . . .	12,810	18,521	...	15,755
Beef <sup>a</sup> . . . . .	1,670	6,588	15,610	7,629
Dairy . . . . .	10,466	15,099	...	12,099
All . . . . .	8,958	14,015	23,524	14,081
<b>Central Illinois</b>				
Acres of tillable land . . .	242	445	797	509
Labor and management earnings by type of farm				
Grain <sup>b</sup> . . . . .	\$11,880	\$19,196	\$36,534	\$22,730
Grain <sup>c</sup> . . . . .	9,204	14,557	25,563	17,484
Hog . . . . .	15,015	20,059	18,190	18,960
All . . . . .	11,922	17,807	31,054	20,226
<b>Southern Illinois</b>				
Acres of tillable land . . .	217	433	869	510
Labor and management earnings by type of farm				
Grain . . . . .	\$ 8,644	\$12,273	\$25,412	\$17,189
Hog . . . . .	11,928	17,551	...	16,736
Dairy . . . . .	18,270	26,561	...	22,005
All . . . . .	12,237	15,395	25,610	17,113

<sup>a</sup> Includes central Illinois.

<sup>b</sup> Highly productive soils with soil-productivity ratings of 86 to 100.

<sup>c</sup> Heavy till and transition soils with soil-productivity ratings of 56 to 85.

**Table 3. — Average Cost per Tillable Acre To Grow Corn and Soybeans on Central Illinois Farms With No Livestock**

	Corn		Soybeans	
	1979	1978	1979	1978
Number of farms . . . . .	557	533	557	533
Acres grown per farm . . .	289	307	259	255
Yield per acre, bu. . . . .	148	132	45	43
<b>Nonland costs</b>				
Variable costs				
Soil fertility . . . . .	\$ 50	\$ 41	\$ 16	\$ 13
Seed, crop & drying . . .	39	33	25	21
Repairs, fuel and hire . . .	25	21	21	18
Total, variable costs . . .	\$114	\$ 95	\$ 62	\$ 52
<b>Other nonland costs</b>				
Labor . . . . .	\$ 27	\$ 26	\$ 27	\$ 26
Buildings and storage . . .	10	9	5	5
Machinery depreciation . .	30	27	25	23
Nonland interest . . . . .	37	28	33	26
Overhead . . . . .	10	9	10	9
Total, other costs . . . . .	\$114	\$ 99	\$100	\$ 89
Total, nonland costs . . .	\$228	\$194	\$162	\$141
<b>Land costs</b>				
Taxes . . . . .	\$ 18	\$ 18	\$ 18	\$ 18
Adjusted net rent . . . . .	103	96	103	96
Total land cost . . . . .	\$121	\$114	\$121	\$114
<b>Total, all costs . . . . .</b>	<b>\$349</b>	<b>\$308</b>	<b>\$283</b>	<b>\$255</b>
Nonland cost per bu. . . .	\$ 1.54	\$ 1.47	\$ 3.60	\$ 3.28
Total, all costs per bu. . .	\$ 2.36	\$ 2.33	\$ 6.29	\$ 5.93

and to costs, weather, and internal farming adjustments. The data in Tables 4, 5, and 6 are particularly helpful for evaluating changes in farm costs and returns within a particular size and type of farm; also, when making comparisons between types of farming. The data do not reflect overall farming adjustments resulting from the enlargement of farms or major changes in the use of resources.

The figure for net farm earnings (formerly identified as farm and family earnings) includes returns to the farm family for all unpaid labor, interest on invested capital, and the managerial inputs used in farming. Changes in the value of farm inventories and that of farm products consumed are included as income. Net farm earnings are calculated by accounting methods generally comparable to the accrual method used to calculate taxable farm income for the federal income tax. Two important differences occur under the accrual method of income tax accounting: the provision for capital gains on livestock sales; and the inclusion of interest paid as a farm expense.

The net farm earnings figure is the amount available from the farm business to pay for living costs, income

and social security taxes, interest, debt repayment, and new investments; also, to increase savings. New capital investments for the farm business have been included with total cash expenditures. Although the cash balance reflects the cash position of the farm business, the figure is influenced by the purchases and sales of feed and livestock and by the changes in liabilities and borrowed funds.

The investment per farm is established as an average of the January 1 and December 31 investments on the farm each year. Physical quantities of grain and livestock are valued at farm market prices. Machinery, buildings, and soil fertility are valued at the remaining capital cost (original cost less depreciation charged to date). Land is priced at current values. A basic value is established for each farm, based on a soil-productivity rating, adjusted to a current value each year by using the February index of land prices in Illinois. All soil-productivity ratings were revised in 1971 to reflect a basic level of management as outlined in Illinois Extension Circular 1156, "Soil Productivity in Illinois," and new land values were assigned. The change in land values represents an accounting adjustment to bring

Table 4. — Average Selected Total Farm Items on 340- to 499-Acre Northern Illinois Grain, Hog, and Beef Farms

	Grain farms			Hog farms			Beef farms		
	1979	1978	1975-79 average	1979	1978	1975-79 average	1979	1978	1975-79 average
Number of farms .....	729	691	701	98	126	128	49	59	56
Total acres .....	420	420	420	411	411	408	400	414	410
Soil-productivity rating <sup>a</sup> .....	86	86	86	82	80	81	79	80	80
Total cash sales .....	\$ 130,268	\$ 115,361	\$ 115,796	\$ 209,115	\$ 194,638	\$ 183,121	\$ 332,356	\$ 234,760	\$ 230,028
Less purchased feed and livestock .....	10,212	8,041	7,718	64,949	57,395	54,332	197,401	141,046	131,794
Net cash sales .....	\$ 120,056	\$ 107,320	\$ 108,078	\$ 144,166	\$ 137,243	\$ 128,789	\$ 134,955	\$ 93,714	\$ 98,234
Inventory change .....	14,548	10,085	6,589	1,156	27,898	8,987	11,745	44,140	18,492
Farm products consumed .....	207	156	176	552	434	455	1,026	859	755
Value of farm production ...	\$ 134,811	\$ 117,561	\$ 114,843	\$ 145,874	\$ 165,575	\$ 138,231	\$ 147,726	\$ 138,713	\$ 117,481
Cash operating expenses ....	50,651	43,551	42,960	65,701	59,602	56,024	60,332	53,563	50,888
Annual depreciation .....	14,247	13,453	12,388	22,712	21,489	18,884	22,136	17,459	16,924
<b>Net farm earnings .....</b>	<b>69,913</b>	<b>60,557</b>	<b>59,495</b>	<b>57,461</b>	<b>84,484</b>	<b>63,323</b>	<b>65,258</b>	<b>67,691</b>	<b>49,669</b>
Unpaid labor charge .....	11,649	10,898	10,156	14,465	13,258	11,995	12,601	11,649	10,980
Returns to capital and mgt. ...	58,264	49,659	49,339	42,996	71,226	51,328	52,657	56,042	38,689
Interest charge on capital ...	52,379	47,129	44,984	58,213	50,077	47,005	63,447	52,338	49,770
<b>Management returns .....</b>	<b>5,885</b>	<b>2,530</b>	<b>4,355</b>	<b>-15,217</b>	<b>21,149</b>	<b>4,323</b>	<b>-10,790</b>	<b>3,704</b>	<b>-11,081</b>
Total cash income <sup>b</sup> .....	130,975	115,916	116,387	210,007	195,127	183,896	333,153	235,070	230,407
Total cash expenditures <sup>b</sup> ....	79,278	68,156	68,928	170,955	150,052	143,807	294,477	222,218	208,114
Cash balances .....	\$ 51,697	\$ 47,760	\$ 47,459	\$ 39,052	\$ 45,075	\$ 40,089	\$ 38,676	\$ 12,852	\$ 22,293
<b>FARM INVESTMENT</b>									
Livestock inventory .....	\$ 12,096	\$ 9,548	\$ 9,153	\$ 74,868	\$ 69,987	\$ 61,606	\$ 153,200	\$ 107,299	\$ 102,058
Grain inventory .....	85,082	77,297	80,791	69,270	58,989	62,990	69,955	60,381	60,945
Remaining capital cost in:									
Machinery and auto .....	41,472	40,339	35,026	49,800	48,011	40,417	52,180	39,500	38,244
Buildings and fence .....	27,523	25,709	22,746	84,006	77,123	62,555	83,805	63,731	59,126
Soil fertility .....	59	14	18	137	130	57	94	65	106
Value of land (current basis) ..	1,069,090	943,148	804,433	948,171	803,710	692,792	889,025	828,646	690,158
Total farm investment .....	\$ 1,235,322	\$ 1,096,055	\$ 952,167	\$ 1,226,252	\$ 1,057,950	\$ 920,417	\$ 1,248,259	\$ 1,099,622	\$ 950,637
Rate earned on investment, %	4.72	4.53	5.18	3.51	6.73	5.58	5.23	5.10	2.42

<sup>a</sup> Adjusted in 1971. See Illinois Extension Circular 1156, "Soil Productivity in Illinois."

<sup>b</sup> Includes sales or purchases of capital items.

land values to current market levels. The land value index for 1979, using a base earning value of 1970 = 100, was 4.13. This was 13 percent higher than the index used in 1978 and 69 percent higher than the 1976 index.

## Northern Illinois farms

**Grain farms.** The net earnings for grain farms in northern Illinois (340 to 499 acres) averaged \$69,913 in 1979, with operator and landowner shares combined (Table 4). These earnings are slightly above the previous record year of 1974 and 18 percent above the average for 1975-1979. Most of the improvement in earnings resulted from record crop yields and selling prices averaging 13 percent higher for corn and soybeans. Although the earnings for 1979 were 15 percent above those for 1978, rising farm costs continue to offset much of the effect of increased crop yields and higher crop prices. Relatively little machinery and equipment has been replaced on farms of 340 to 499 acres since 1977. For 1979, the annual depreciation expense averaged \$14,247, with new capital purchases averaging only \$15,941. Cash operating expenses increased 16 percent during the year from an average of \$109 to \$127 per tillable

acre. Operating expenses in 1979 averaged 31 percent above those for 1975, making the average annual increase 6.2 percent per year for the past 5 years. The rate earned on investment in 1979 was 4.72 percent. This was low compared with other farms in the same size category, reflecting continued cost increases equal to or greater than those of grain prices.

Over 95 percent of the tillable land on the record-keeping farms of 340 to 499 acres was used to grow corn and soybeans, with 52 percent of the acres in corn and about 43 percent in soybeans. Table 3 shows a comparison of the average cost per acre in 1979 to grow corn and soybeans in central Illinois with the figures for 1978. In 1979, the total cost averaged \$349 per acre for corn and \$283 for soybeans. From 1978 to 1979, the total cost increased 13 percent for corn and 11 percent for soybeans; but the costs of fertilizer, pesticides, fuels, machinery repairs, and interest increased from 15 to 50 percent.

Nonland costs are the most relevant ones for maintaining production in the short run, especially where the land is free of debt. The higher yields in 1979 influenced the cost per bushel. If the yield averages in 1979 had been at the 1976-1979 averages of 136 bushels for corn and 44 bushels for soybeans, the total of all costs per bushel would have been \$2.57 for corn and \$6.43 for soybeans.

The soil fertility cost for soybeans was allocated on the basis of P, K, and lime removals, with the residual cost allocated to corn. The seed, crop, and drying expenses included seed, herbicides, insecticides, drying, and fuel purchased, plus the cost of commercial drying and storage and the estimated value of seed used that was grown on the farm.

The total unpaid labor charge was based on the labor available. The nonland interest rate was 9 percent of the average of the beginning and ending inventory value for the crops on hand and the undepreciated value of machinery and buildings. The adjusted net rent was the average net rent received by crop-share landlords, as reported on recordkeeping farms for 1974-1978.

**Hog farms.** The net earnings for hog farms in northern Illinois (340 to 499 acres) in 1979 averaged \$57,461, with operator and landlord shares combined (Table 4). This is 32 percent below the record earnings of 1978. The average number of litters farrowed per farm increased 17 percent over 1978, moving from 172 to 201 with very little increase in labor. Hog farmers have had 2 years of very high incomes in the past 5 years. Of the past 7 years, 3 have been ones of very high income. Excellent crop production in 1979 was the only thing that saved hog farms from having one of the poorest years for income on record.

High income years contribute to rising costs for new investment and operating expenses. Substantial investments in new equipment and facilities have continued for 8 years. In 1979, capital purchases were 65 percent higher than the annual depreciation taken. Cash operat-

**Table 5. — Average Selected Total Farm Items on 260- to 399-Acre Northern Illinois Dairy Farms**

	1979	1978	1975-1979 average
Number of farms .....	47	48	50
Total acres .....	293	294	295
Soil-productivity rating <sup>a</sup> .....	71	71	71
Total cash sales .....	\$127,666	\$113,785	\$101,006
Less purchased feed and livestock .....	18,095	19,736	16,794
Net cash sales .....	\$109,571	\$ 94,049	\$ 84,212
Inventory change .....	11,914	9,825	7,800
Farm products consumed .....	658	742	643
Value of farm production .....	\$122,143	\$104,616	\$ 92,655
Cash operating expenses .....	44,285	41,523	37,593
Annual depreciation .....	14,118	13,693	12,095
<b>Net farm earnings .....</b>	<b>\$ 63,740</b>	<b>\$ 49,400</b>	<b>\$ 42,967</b>
Unpaid labor charge .....	15,902	14,875	13,730
Returns to capital and mgt. ....	47,838	34,525	29,237
Interest charge on capital .....	35,377	31,855	29,506
<b>Management returns .....</b>	<b>12,461</b>	<b>2,670</b>	<b>-269</b>
Total cash income <sup>b</sup> .....	127,879	113,870	101,243
Total cash expenditures <sup>b</sup> .....	90,520	83,891	74,442
Cash balance .....	\$ 37,359	\$ 29,979	\$ 26,801
<b>FARM INVESTMENT</b>			
Livestock inventory .....	\$ 45,685	\$ 41,784	\$ 37,251
Grain inventory .....	34,391	33,457	30,921
Remaining capital cost in:			
Machinery and auto .....	36,676	33,162	28,777
Buildings and fence .....	50,978	52,407	45,566
Soil fertility .....	0	0	0
Value of land (current basis) ...	579,455	513,248	435,027
Total farm investment .....	\$747,185	\$674,058	\$577,542
Rate earned on investment, % ..	6.40	5.12	5.06

<sup>a</sup> Adjusted in 1971. See Illinois Extension Circular 1156, "Soil Productivity in Illinois."

<sup>b</sup> Includes sales or purchases of capital items.



ing expenses went up 10 percent in 1979. Since 1975, operating expenses have increased 29 percent, or nearly 6 percent a year, while the allowances for depreciation increased 49 percent, or 8 percent a year. Some of the increase arises from attempts to establish larger income tax deductions and investment tax credits in years when taxable income was high. While the average rate earned on investment for the past 5 years ranked hog farms as number one in earnings during the mid 1970's, the continued expansion in hog production is producing lower returns now.

**Beef farms.** The net earnings for beef farms in northern Illinois (340 to 499 acres) averaged \$65,258 in 1979, with operator and landlord shares combined (Table 4). The gross value of farm production was 6 percent above the previous record, but higher costs caused net farm earnings to drop by 4 percent. Earnings on beef farms continue to vary considerably. The management returns for 1973 and 1975 were two of the highest years for income on record; but 1974, 1976, 1977, and 1979 were among the lowest.

The 30 percent increase in the average selling price for 1979 over 1978 for all weights of fed cattle was

offset by an average increase of 40 percent in the purchase price of replacement cattle. In 1979, cash operating expenses and annual depreciation increased 13 and 27 percent, respectively. These costs have risen 11 percent per year since 1975. All the gains in income resulting from the higher selling prices for beef have been wiped out by rising costs, especially for interest and replacement cattle. The average rate of 2.42 percent earned on investment for the last 5 years is not enough to maintain the typical operation over the long run. These data indicate that farms on which beef cattle are raised continue to compete for resources on the basis of the availability of nonmarketable resources, an above-average efficiency, or both.

**Dairy farms.** The net earnings for dairy farms in northern Illinois (260 to 339 acres) averaged \$63,740 in 1979, with operator and landlord shares combined (Table 5). This is the third consecutive year for record earnings. Higher crop yields combined with 13-percent increase in the price for milk and a 49-percent rise in the price per hundredweight for animals sold from the dairy herd resulted in higher management returns than those for any other farm type of similar size, both in

Table 6. — Average Selected Total Farm Items on 340- to 499-Acre Southern Illinois Grain and Hog Farms and 260- to 339-Acre Dairy Farms

	Grain farms			Hog farms			Dairy farms		
	1979	1978	1975-1979 average	1979	1978	1975-1979 average	1979	1978	1975-1979 average
Number of farms .....	176	168	157	51	40	47	28	27	28
Total acres .....	424	418	422	413	410	412	302	303	302
Soil-productivity rating <sup>a</sup> .....	62	61	63	61	60	60	60	58	59
Total cash sales .....	\$106,577	\$ 93,371	\$ 90,254	\$174,398	\$161,602	\$152,356	\$149,909	\$121,759	\$115,112
Less purchased feed and livestock .....	10,403	10,142	8,226	57,169	53,675	46,767	28,597	20,409	21,591
Net cash sales .....	\$ 96,174	\$ 83,229	\$ 82,028	\$117,229	\$107,927	\$105,589	\$121,312	\$101,350	\$ 93,521
Inventory change .....	11,591	5,588	5,464	5,846	17,263	7,386	22,197	19,407	10,393
Farm products consumed .....	287	291	254	383	432	437	997	1,009	926
Value of farm production .....	\$108,052	\$ 89,108	\$ 87,746	\$123,458	\$125,622	\$113,412	\$144,506	\$121,766	\$104,840
Cash operating expenses .....	41,447	34,939	34,672	51,080	46,034	44,594	51,262	42,826	41,115
Annual depreciation .....	13,007	11,082	10,374	19,619	17,309	15,918	18,771	16,082	14,104
<b>Net farm earnings .....</b>	<b>\$ 53,598</b>	<b>\$ 43,087</b>	<b>\$ 42,700</b>	<b>\$ 52,759</b>	<b>\$ 62,279</b>	<b>\$ 52,900</b>	<b>\$ 74,473</b>	<b>\$ 62,858</b>	<b>\$ 49,621</b>
Unpaid labor charge .....	12,182	11,206	10,493	13,429	12,959	11,456	14,899	14,519	13,421
Returns to capital and mgt. ....	41,416	31,881	32,207	39,330	49,320	41,444	59,574	48,339	36,200
Interest charge on capital .....	34,966	30,039	29,187	41,093	34,289	32,614	34,580	27,807	26,226
<b>Management returns .....</b>	<b>\$ 6,450</b>	<b>\$ 1,842</b>	<b>\$ 3,020</b>	<b>\$ -1,763</b>	<b>\$ 15,031</b>	<b>\$ 8,830</b>	<b>\$ 24,994</b>	<b>\$ 20,532</b>	<b>\$ 9,974</b>
Total cash income <sup>b</sup> .....	107,387	94,060	90,826	174,713	161,745	152,664	150,315	122,453	115,389
Total cash expenditures <sup>b</sup> .....	71,200	65,675	61,116	147,059	132,745	122,088	115,438	99,677	88,616
Cash balance .....	\$ 36,187	\$ 28,385	\$ 29,710	\$ 27,654	\$ 29,000	\$ 30,576	\$ 34,877	\$ 22,776	\$ 26,773
<b>FARM INVESTMENT</b>									
Livestock inventory .....	\$ 13,401	\$ 11,414	\$ 10,801	\$ 52,296	\$ 48,838	\$ 41,925	\$ 62,997	\$ 46,916	\$ 42,470
Grain inventory .....	53,130	43,771	46,120	55,097	44,982	49,835	40,575	38,407	35,392
Remaining capital cost in:									
Machinery and auto .....	42,268	37,306	31,817	54,165	44,520	38,817	52,410	49,152	39,260
Buildings and fence .....	18,200	15,154	13,425	51,542	46,017	39,168	46,893	38,083	35,483
Soil fertility .....	38	28	42	291	298	153	127	7	27
Value of land (current basis) .....	672,354	579,062	507,354	625,367	530,305	456,735	466,001	378,456	333,513
Total farm investment .....	\$799,391	\$686,735	\$609,559	\$838,758	\$714,960	\$626,633	\$669,003	\$551,021	\$486,145
Rate earned on investment, % ....	5.18	4.64	5.28	4.69	6.90	6.61	8.90	8.77	7.45

<sup>a</sup> Adjusted in 1971. See Illinois Extension Circular 1156, "Soil Productivity in Illinois."

<sup>b</sup> Includes sales or purchases of capital items.

northern and southern Illinois. The 1979 figure was 71 percent above the previous record earnings recorded in 1973. Capital purchases in 1979 were twice the annual charge for depreciation, indicating that the higher incomes were being used to replace equipment and buildings. Yet, the average number of milk cows per farm has increased by only 4 over the past decade and has remained at 55 cows since 1976.

Cash operating expenses went up 17 percent in 1979. Over the 5 years since 1974, those expenses have increased 9 percent per year. The average price received for milk during the same period rose from \$7.99 per 100 pounds to \$11.56, or 9 percent per year, while the average milk production per cow increased 290 pounds per year. The price received for beef from cull animals and vealers sold from the dairy herd can be an important factor in determining total returns. When beef prices are high, such sales may account for as much as 20 percent of the total income on a dairy farm, such as in 1978 and 1979. But when beef prices are low, as they were from 1974 to 1977, this source of income may drop to only 10 percent of the total.

The much-improved earnings on dairy farms in 1978 and 1979 raised the 1975-1979 average for management returns enough to make dairy farms in northern Illinois competitive in terms of attracting resources for the first time in many years. However, once the milk price adjusts to the increase in the surplus supplies of milk products now accumulating, above-average efficiency or use of nonmarketable resources will still be required in order for dairy farms to remain competitive with hog or grain farms for the resources needed.

### **Southern Illinois farms**

**Grain farms.** The net earnings for grain farms in southern Illinois (340 to 499 acres) averaged \$53,598 in 1979, with operator and landlord shares combined (Table 6). That figure is \$10,511 above the one for 1978 and \$10,898 above the average for 1975-1979. Higher selling prices for all crops and record crop yields more than offset the effect of higher costs. The gross value of all farm production was 21 percent above the previous record, set in 1978.

Cash operating expenses increased 19 percent in 1979, over 3 times the annual rate of increase for operating costs since 1975. Even though the averages for cash balances and net earnings were 25 percent above those for 1978, the farm operators reduced their capital purchases for equipment and buildings in 1979 from 2 times the annual rate of depreciation to only 1.5 times that rate. Although 1979 was a relatively good year for income, farm costs have been increasing faster than the gross value of farm production. As an average for 1975-1978, management returns are now only 3.4 percent of the value of production, compared to the 7.4 percent calculated last year for the 1974-1978 average.

**Hog farms.** The net earnings for hog farms in southern Illinois (340 to 499 acres) averaged \$52,759 in 1979, with landlord and operator shares combined (Table 6). This is 15 percent below the figure for 1978 and about equal to the average for 1975-1979. Large reductions in earnings were experienced during 1979 because hog prices dropped 25 percent during the year. The record crop yields helped cushion the effects of lower incomes from the hog enterprise and higher costs.

With 4 years of record income out of the past 8, hog producers have continued to invest in new facilities. Capital purchases were still twice the annual depreciation in 1979. Depreciation has been influenced by income tax considerations. Operators with high incomes seek tax deductions through accelerated depreciations and investment tax credits. The average number of litters farrowed per farm in the sample increased from 84 in 1973 to 209 in 1979, while the labor used increased by only 2 months. The average number of litters farrowed per farm in 1979 was up 20 percent over 1978.

The drop in net earnings also reduced the rate of increase in cash operating expenses to 9 percent, which is half the increase recorded on grain and dairy farms. The 5-year average of 6.6 percent earned on investment is now greater than for grain farms of similar size, but less than that for dairy farms. For 1975-1979, the average return for management and risk on southern Illinois hog farms declined from previous 5-year average by 9 percent.

**Dairy farms.** The net earnings for dairy farms in southern Illinois (260 to 339 acres) in 1979 averaged \$74,473 (Table 6). This was 18 percent above the previous high and 50 percent greater than the 1975-1979 average. Record crop yields plus higher prices for crops sold, an increase of 14 percent in milk prices, and prices up 49 percent for all weights of dairy animals sold contributed to the high earnings recorded.

Cash operating expenses went up 17 percent during 1979, rising 10 percent per year since 1975. Capital purchases for buildings and equipment have averaged more than twice the annual amount charged for depreciation during the past 2 years, indicating that facilities were replaced or expanded when funds were available. The average for the number of milk cows per farm remained at about 61 from 1973 to 1978, but increased to 64 cows in 1979. The months of labor used has remained the same. The average of 64 cows per herd is 9 more than on farms of similar size and type in northern Illinois.

The rate earned on investment for 1975-1979 averaged 7.45 percent, compared to 5.1 percent on similar farms in northern Illinois. For the size group, dairy farms in southern Illinois are now the most profitable ones in Illinois. For 1975-1979, the values for southern Illinois dairy farm land averaged \$371 lower per acre than for dairy farms in northern Illinois, while building investments averaged \$37 lower per acre.

## LIVESTOCK ENTERPRISES

Table 7 shows the return (per \$100 of feed fed) from various livestock enterprises and the price of corn during each of the past 15 years. Averages for 15 years and 5 years are also shown. The difference between the average return figure and \$100 feed cost represents the margin available to pay labor, depreciation on equipment, cash expenses other than feed, and interest on investment; also, to provide for profit.

The margin needed to cover nonfeed costs varies with the kind of livestock and depends on the proportion of total production costs represented by feed. The 15-year averages (1965-1979) represent the approximate level of returns at which farmers have been willing to maintain livestock production. The average may not represent a breakeven return on all farms because some farmers may discount market prices for some of the resources used in producing livestock. If a farmer already has facilities for livestock, he only needs to cover operating costs in order to continue production. However, when he views livestock production as a new or a long-run enterprise, he hopes to cover all costs—fixed and variable. Otherwise he may not undertake the enterprise.

As individual farmers try to increase profits, they tend to curtail livestock production when the return per \$100 of feed fed is below the 15-year average. This tendency on the part of producers causes supplies of livestock products to fluctuate.

The returns from feeder cattle vary greatly from year to year. The long-run averages, shown in Table 8, indicate that the cattle-feeding business is not paying average market rates for all of the resources used, even though record returns were earned in 1978 and 1979. Above-average skills are needed in buying, selling, and feeding to meet the competition of other uses for time and money on farms with feeder cattle. It is difficult to identify cyclical income movements over a 15-year

**Table 7. — Returns per \$100 of Feed Fed to Different Classes of Livestock**

Year	Beef cow herds	Dairy cow herds	Feeder cattle bought	Native sheep raised	Feeder pigs	Farrow-to-finish hogs	Poultry	Yearly price of corn
dollars								
1965	127	174	151	143	176	210	143	1.15
1966	132	190	117	129	140	178	168	1.23
1967	138	199	119	117	123	154	128	1.17
1968	156	210	142	133	134	170	167	1.02
1969	162	205	152	146	171	212	203	1.14
1970	150	199	118	128	104	142	186	1.26
1971	180	200	156	122	122	150	135	1.27
1972	208	212	161	134	171	214	134	1.16
1973	184	177	120	123	161	192	151	2.00
1974	41	138	64	94	108	121	125	3.00
1975	95	146	134	101	158	191	138	2.73
1976	91	168	93	105	118	152	146	2.55
1977	107	181	116	144	134	170	124	2.07
1978	199	217	170	159	151	208	141	2.13
1979	183	220	149	148	106	136	131	2.44
<b>Averages</b>								
1965-1979	144	189	131	128	138	173	148	1.75
1965-1969	143	196	136	134	149	185	162	1.14
1970-1974	153	185	124	120	133	164	146	1.74
1975-1979	135	186	132	131	133	171	136	2.38

period in the beef-cattle industry because it is more complex and adjusts more slowly than other livestock enterprises.

For the beef-herd enterprise, the average returns above cost of feed for 1970-1979 are below the margin needed to cover all nonfeed costs (Table 8). The implication is that the beef enterprise competes most favorably on farms where labor, capital, and management resources are plentiful and where they have few alternate uses. The beef-cow enterprise had record returns of \$246 and \$240 per cow above the cost of feed in 1978 and 1979, compared to \$75 for the past 10 years. In 1979, the dairy enterprise also had a record return of \$1,068 per cow above cost of feed, compared to the 10-year average of \$548. That average is about equal to the estimated average for nonfeed costs (same period).

The cyclical pattern of farrow-to-finish hog production is more easily identified (Table 8). Returns tend to exceed the 10-year average for 1 or 2 years, then dropping below the average for 1 or 2 years.

Raising livestock is becoming more competitive. Average profit margins are narrow. Nonetheless, large numbers of farmers are willing to stay in business as long as their return covers only direct operating costs. Expansion plans involving large investments for new facilities should be based on an estimated return that is high enough to cover all costs. Fluctuations in livestock returns can involve a risk in low-return years. The estimated nonfeed cost for future livestock production is shown in Table 8.

**Table 8. — Variation in Returns to Livestock Enterprise Units, 1970-1979**

Year	Farrow-to-finish hogs (per cwt.)	Feeder-pig finishing (per cwt.)	Feeder cattle (per cwt.)	Dairy cattle (cow)	Beef herd (cow) <sup>a</sup>	Poultry laying flock (hen)
<b>Returns above the costs of feed and of purchased animals</b>						
1970	\$ 5.37	\$ .50	\$ 3.77	\$ 370	\$ 58	\$2.95
1971	6.51	2.89	12.14	389	87	1.10
1972	15.07	8.29	12.78	446	123	1.05
1973	20.70	12.75	6.94	438	128	2.61
1974	5.99	2.14	-15.87	282	-117	1.51
1975	24.39	14.24	15.64	349	-12	1.97
1976	13.00	4.27	-2.73	566	-22	2.63
1977	16.50	7.34	5.79	635	18	1.31
1978	25.60	11.25	26.27	933	246	2.30
1979	9.50	1.57	20.27	1,068	240	1.99
10-year avg.	\$14.26	\$ 6.52	\$ 8.50	\$ 548	\$ 75	\$1.94
<b>Nonfeed costs, 1970-1979</b>						
Direct cash <sup>b</sup>	\$ 2.85	\$ 1.30	\$ 2.15	\$ 110	\$ 16	\$ .47
Other costs <sup>c</sup>	8.90	4.65	7.30	440	97	1.83
Total	\$11.75	\$ 5.95	\$ 9.45	\$ 550	\$113	\$2.30
<b>Nonfeed costs for future production<sup>d</sup></b>						
Direct cash	\$ 5.25	\$ 2.25	\$ 3.25	\$ 170	\$ 28	\$ .67
Other costs	17.25	7.50	16.75	830	170	2.50
Total	\$22.50	\$ 9.75	\$20.00	\$1,000	\$198	\$3.17

<sup>a</sup> The feed cost for beef herd includes up to \$42 of hay equivalent from salvage roughage.

<sup>b</sup> Includes veterinary costs, utilities, fuel and equipment repair costs, and other direct cash expenses, from Table 6, Farm Management Manuals, 1970-1979.

<sup>c</sup> Estimates of annual nonfeed costs are based on enterprise cost studies of operative units in 1970-1979.

<sup>d</sup> Nonfeed costs based on facility replacement costs and other inputs at 1979 prices.



## Hog enterprises

The information on farrow-to-finish enterprises in Table 9 is based on a sample of 924 farms farrowing 10 litters or more per year. Farms were omitted from the sample if the number of hogs purchased exceeded 10 percent of the pigs weaned. This eliminated those farms with combined farrowing and feeder-pig operations from the sample. (Feeder-pig enterprise information is included in Table 11.) The average size of farrow-to-finish enterprises on all recordkeeping farms has been increasing at the rate of about 5 litters per year, from 77 litters per farm in 1968 to 135 litters in 1979. The 1979 records summarized here for the "all farms" group show that the return above feed costs per 100 pounds of pork produced decreased from \$25.60 in 1978 to \$9.50 in 1979 (Table 8).

The 10-year average for returns above feed costs per 100 pounds produced is \$14.26 (Table 8). That is \$4.76 above the 1979 return. On the basis of detailed cost records, an average farmer with existing facilities would have required a return (above feed costs) of \$11.75 per 100 pounds to pay for all nonfeed costs during the past 10 years. This would have left a margin for management and profit of \$2.51 per 100 pounds of pork produced (\$14.26 minus \$11.75), or about \$40 per litter.

Table 9. — Hog Enterprises, 1979

	Farrow to Finish		Feeder pig production
	All farms	200 or more litters per farm	
Number of farms .....	924	189	21
<b>Average per farm</b>			
Pork produced, lb. ....	217,962	486,338	83,381
Pork produced per litter, lb. ....	1,614	1,548	499
Total returns .....	\$78,079	\$175,889	\$52,536
Value of feed fed .....	\$57,357	\$124,783	\$27,023
Returns per \$100 of feed fed \$	136	140	194
No. of litters farrowed ....	135	314	167
Pigs farrowed per litter ....	9.0	9.0	9.7
Pigs weaned per litter ....	7.1	7.1	6.8
Litters farrowed per female year .....	1.58	1.65	1.41
Pigs weaned per female year .....	11.22	11.72	9.59
Number of pigs weaned ...	959	2,229	1,136
Death loss, percent of pounds produced .....	1.9	2.0	2.1
Weight per hog sold, lb. ...	238	235	52 <sup>a</sup>
Per 100 pounds produced			
Price received .....	\$ 41.17	\$ 41.33	\$ 76.59
Total return .....	\$ 35.82	\$ 36.16	\$ 63.00
Feed cost .....	\$ 26.32	\$ 25.66	\$ 32.41
Return above feed .....	\$ 9.50	\$ 10.50	\$ 30.59
Farm grains, lb. ....	326	323	347
Commercial feed, lb. ....	90	88	135
Total concentrates, lb. ....	416	411	482
Pasture (pasture-days) ...	...	...	...
Cost per 100 pounds of commercial feed .....	\$ 13.35	\$ 12.98	\$ 12.81
Cost per 100 pounds of concentrates .....	\$ 6.30	\$ 6.21	\$ 6.72

<sup>a</sup> The average weight sold and price received for the feeder-pig production enterprise is for the feeder pigs only.

One litter in this period was equivalent to 16 hundred-weight.

The farrow-to-finish enterprise records for 1979 reported in Table 9 were also sorted by the number of litters produced. One group farrowing 200 or more litters averaged 314 litters. The feed cost per 100 pounds of pork produced was 66 cents lower for the 314-litter group compared to the average for all farms. The large producers paid about \$7 less per ton for commercial feed, while feed conversion was about the same for both groups. The prices received (net at the farm) for hogs sold by large producers were 16 cents higher than those received by all producers.

A summary of the feeder-pig production enterprises is also reported in Table 9. In 1979, the average enterprise in this group produced 167 litters with a return of \$194 per \$100 of feed fed. They weaned an average of 6.8 pigs per litter and sold the pigs at 52 pounds per head. The 1979 average price received per 100 pounds of feeder pigs sold was \$76.59, or \$39.83 per head. The average feed cost per 100 pounds of pork produced (pigs and breeding stock) was \$32.41 for 482 pounds of concentrate.

A substantial profit margin is required to compensate for the risk and detailed management involved in hog production, compared to the risk and management involved in other uses for the same resources. Large-scale hog production in modern confinement facilities requires high capital investments. The future recovery of the capital is uncertain, and the salvage value of confinement hog facilities is low. Also, acquiring the managerial skills necessary for producing a large volume of hogs in confinement may discourage any rapid expansion of large hog-producing units.

The data on hog enterprises in Table 10 show a detailed breakdown of costs and returns from a group of specialized commercial hog farms for 1976-1979. The value of the feed fed to hogs was more than 75 percent of the feed and grain returns produced on these farms. This degree of livestock intensity indicates a commitment of major resources to the hog enterprise. The producers in this group probably exercise a higher level of management and use more confinement production facilities than the average hog producer in Illinois.

The hog enterprise records summarized in Table 10 were sorted by the number of litters produced. The group farrowing under 250 litters averaged 160 litters from 1976 to 1979, while the one farrowing 250 or more litters averaged 385 litters during the same period.

The most significant cost difference between the two groups of farms was the feed cost. The average feed cost for 1976-1979 per 100 pounds of pork produced for the large enterprises was \$1.36 lower than for the small enterprises. Differences in the amount of feed used per 100 pounds of pork produced and the price paid for commercial feeds caused the difference in feed costs.

From 1976 to 1979, the average for total nonfeed costs in the small-enterprise group increased 25 percent;

Table 10. — Costs and Returns for Farrow-to-Finish Hog Enterprises, by Size of Enterprise, 1976-1979

	Under 250 litters				250 litters or more			
	1979	1978	1977	1976	1979	1978	1977	1976
Number of farms .....	91	83	113	90	57	48	47	52
<b>Average per farm</b>								
Tillable acres .....	194	226	242	236	360	382	450	392
Number of litters .....	169	166	156	147	416	390	392	340
	<b>Per 100 pounds of pork produced</b>				<b>Per 100 pounds of pork produced</b>			
Total returns .....	\$37.51	\$49.80	\$41.85	\$38.63	\$36.72	\$48.79	\$41.64	\$37.39
Feed costs .....	27.40	24.40	24.61	26.43	26.35	23.51	23.23	24.30
Return above feed costs .....	\$10.11	\$25.40	\$17.24	\$12.20	\$10.37	\$25.28	\$18.41	\$13.09
<b>Nonfeed costs</b>								
Buildings .....	\$ 2.42	\$ 2.65	\$ 2.08	\$ 1.96	\$ 2.65	\$ 2.59	\$ 2.26	\$ 1.95
Machinery and equipment .....	3.69	3.54	2.75	2.68	3.45	3.55	3.15	2.88
Labor .....	3.81	3.80	3.60	3.46	3.71	3.31	3.05	3.00
Livestock expenses .....	1.66	1.68	1.61	1.16	1.52	1.51	1.40	1.05
Taxes .....	.20	.19	.19	.20	.25	.17	.16	.20
Interest charge on all capital .....	4.10	3.71	3.29	3.12	3.86	3.29	3.13	3.00
Insurance and overhead .....	.57	.58	.58	.60	.60	.62	.59	.56
Total nonfeed costs .....	\$16.45	\$16.15	\$14.10	\$13.18	\$16.04	\$15.04	\$13.74	\$12.64
Total all costs .....	\$43.85	\$40.55	\$38.71	\$39.61	\$42.39	\$38.55	\$36.97	\$36.94
Returns above all costs .....	-\$6.34	\$ 9.25	\$ 3.14	-\$9.98	-\$5.67	\$10.24	\$ 4.67	\$ .45

for the large-enterprise group, 27 percent. The costs for buildings, machinery, and equipment in 1979 were essentially the same for both enterprise groups. Unlike previous years, little difference in labor costs was shown. A reduced labor input within the large enterprises was offset by the higher wage rate paid to acquire more skilled labor.

From 1976 to 1979, the returns above all costs averaged \$1.27 per 100 pounds of pork produced for the small enterprises and \$2.42 for the large enterprises, a difference of \$1.15. Management practices such as the choice of building systems, method of transporting hogs to market, type of market used, and on-farm versus off-farm systems for feed-processing affect the individual cost items reported in Table 10. However, the return above all costs should accurately reflect the relative efficiency of the two groups of hog enterprises.

### Feeder cattle and feeder pig finishing enterprises

Data for 1979 on the feeder-cattle and feeder-pig finishing enterprises are presented in Table 11. These enterprise summaries include weights and values on partly finished animals purchased in previous years as well as on animals purchased during the current year.

The average for pork produced per farm from feeder-pig enterprises was 107,436 pounds in 1979 (Table 11). At 175 pounds of gain per head, this amounted to 614 head fed per farm in 1979, compared with 825 in 1978.

The return above the cost of feed and purchased animals for 1970-1979 averaged \$6.52 per 100 pounds of gain. This compares to an estimated return of \$5.95 required to cover all nonfeed costs for the past 10 years and \$9.75 required to consider future production (Table 8).

On the assumption that a 500-pound unit of gain equals 1 head of feeder cattle, the average of 124,508 pounds of beef produced per farm in 1979 (Table 11) equals 249 head of feeder cattle per farm. That is an increase of 70 above the average of 179 head fed per farm in 1971. The return per \$100 of feed for feeder-cattle enterprises was \$149 in 1979, compared to \$170 in 1978 and \$131 for the 15-year average (Table 7).

The price paid for feeders was \$23.37 per 100 pounds higher in 1979 than in 1978, while the price re-

Table 11. — Feeder-Cattle and Feeder-Pig Finishing Enterprises, 1979

Items	Feeder cattle	Feeder-pig finishing
Number of farms .....	402	189
<b>Average per farm</b>		
Total pounds produced .....	124,508	107,436
Total returns .....	\$76,552	\$29,224
Value of feed fed .....	\$51,308	\$27,538
Returns per \$100 feed fed .....	\$149	\$106
Death loss, pct. of lb. produced .....	2.5	2.6
Average weight purchased .....	594	50
Price paid per 100 pounds .....	\$81.14	\$76.17
Average weight sold .....	1,055	228
<b>Per 100 pounds produced</b>		
Price received .....	\$65.82	\$41.64
Total return .....	\$61.48	\$27.20
Feed cost .....	\$41.21	\$25.63
Return above feed .....	\$20.27	\$ 1.57
Farm grains, lb. ....	565	328
Commercial feeds, lb. ....	54	78
Total concentrates, lb. ....	619	406
Hay, lb. ....	65	...
Corn silage, lb. ....	754	...
Other silage, lb. ....	179	...
Hay equivalent, lb. ....	394	...

ceived for cattle sold in 1979 was \$15.23 higher. The average weight for animals purchased and sold remained steady at 594 and 1,055 pounds, respectively. The feed cost was \$41.21 per 100 pounds produced in 1979, compared to \$37.33 in 1978.

Each 100 pounds of beef produced required 619 pounds of concentrates and 65 pounds of hay. The amount of corn silage used in 1979 averaged 754 pounds and other silage 179 pounds, a total of 933 pounds per animal. Silage utilization by the feeder-cattle enterprise has remained relatively constant since 1970, with a 10-year average (1970-1979) of 941 pounds per 100 pounds of beef produced. The use of 933 pounds in 1979 was double the amount fed in 1960. The end result of this shift has been greater production and utilization of crops from a fixed land resource. The mechanization of the silage-feeding operation has also reduced the labor input per unit of production.

These data do not show the wide variation in profits among cattle-feeding programs. The data in Tables 7, 8, and 11 on Illinois feeder-cattle enterprises reflect the composite results of all qualities and ages of cattle fed. The data are heavily weighted with good-to-choice calves and yearlings as the predominant cattle-feeding systems. Most farmers are now feeding more than one drove of cattle each year, in order to better utilize their fixed investments in mechanized feedlots.

The return above the costs of feed and purchased animals averaged \$8.50 per 100 pounds of beef produced for 1970-1979 (Table 8). During this period, returns ranged from -\$15.87 in 1974 to \$26.27 in 1978. In 5 of the past 10 years, the returns above feed costs were above the estimated \$9.45 per hundredweight required to pay for all nonfeed costs for the average cattle feeder.

Exclusive of feed and interest costs, the direct cash costs associated with cattle feeding average about \$2.15 per hundredweight. The return above feed costs has exceeded the direct cash costs per hundredweight in all of the past 10 years except 1974 and 1976, when the return was -\$15.87 and \$2.73, respectively.

A large but declining number of cattle feeders in Illinois apparently will feed cattle if their return covers feed and cash costs but is short of paying average market rates for some of the fixed and farm overhead costs.

Farmers' values, goals, and attitudes have been important in maintaining production; but the dictates of the market, technological changes, and shifts in basic supply and demand factors are causing changes. The return reflected in this average of all feeder-cattle enterprises suggests that for cattle feeding to be profitable, farmers must produce the kind of beef the consumer wants at the lowest possible cost. Farmers considering an expansion of the cattle-feeding enterprise on farms where there are no nonmarketable feeds, unemployed labor, or fixed capital investments should budget carefully before they make new investments.

## Dairy enterprises

The minimum size for a herd included in this analysis was 10 milk cows. The average size of dairy herds on recordkeeping farms has increased steadily, from 41 cows in 1970 to 59 cows in 1978. During 1979, the average number of dairy cows per farm declined for the first time since 1966, from 59.1 to 57.6.

The return per \$100 of feed fed to dairy cattle in 1979 was \$220. The average was \$186 for 1975-1979 (Table 7). In 1978, milk prices per hundredweight increased \$1.40 over 1978, beef prices for all weights sold went up \$20.05 per 100 pounds, and feed costs rose \$4.21 per unit of milk or beef.

Dairy farmers have reduced the amount of pasture and dry hay and have increased the amounts of grain and silage being fed. The number of pasture-days per unit (1,000 pounds of milk or 100 pounds of beef) was 19 in 1954, 9 in 1964, 3 in 1974, and only 1 in 1979.

The dairy herds in Table 12 were subdivided into two groups, according to their efficiency as measured

Table 12. — Dairy Cattle Enterprises, 1979

	All farms	Efficiency	
		High <sup>a</sup>	Low <sup>b</sup>
Number of farms . . . . .	293	98	112
<b>Average per farm</b>			
Number of cows . . . . .	57.6	60.7	52.8
Milk cows dry, pct. . . . .	15.4	14.8	16.6
Animal units in herd . . . .	106	115	96
Total returns . . . . .	\$112,693	\$140,137	\$85,547
Value of feed fed . . . . .	\$51,127	\$54,380	\$46,808
Returns per \$100 of feed fed . . . . .	\$220	\$257	\$182
Returns above feed per cow . . . . .	\$1,068	\$1,412	\$733
Total milk produced, 100 lb. . . . .	7,830	9,101	6,362
Pounds of milk per cow . .	13,593	14,993	12,049
Pounds of butterfat per cow . . . . .	502	554	445
Total beef produced, lb. . .	35,099	42,546	26,942
Pounds of beef per cow . .	609	700	510
Death loss, percent of pounds produced . . . .	10.0	7.1	14.5
Price received for:			
100 pounds of milk . . . .	\$11.56	\$11.57	\$11.46
100 pounds of beef . . . .	\$60.94	\$64.90	\$59.40
Per unit of milk and beef <sup>c</sup>			
Feed cost . . . . .	\$45.08	\$40.71	\$51.68
Grain, lb. . . . .	345	313	403
Protein and minerals, lb. .	88	84	90
Total concentrates, lb. .	433	397	493
Hay and dry roughage, lb. . . . .	294	256	355
Corn silage, lb. . . . .	624	561	733
Other silage, lb. . . . .	449	378	485
Pasture (pasture-days) .	1	1	2
Pasture-days per animal unit . . . . .	20	18	24
Hay equivalent per cow, tons . . . . .	7.3	7.1	7.5
Concentrates per cow, lb. .	8,542	8,731	8,454

<sup>a</sup> High ½ dairy return above feed per cow exceeds 1,180.

<sup>b</sup> Low ½ dairy return above feed per cow is below 960.

<sup>c</sup> 1,000 pounds of milk or 100 pounds of beef.



by returns above the cost of feed per cow. The high-efficiency group had more cows in the herd, fewer dry cows, and nearly double the returns above feed cost per cow than the other group, \$1,412 compared to \$733. The most significant factors were (1) 24 percent higher milk production per cow, an average of 14,993 compared to 12,049 pounds, and a 26-percent lower feed cost per unit of milk or beef produced.

The average return above feed costs per cow for all dairy herds was \$1,068 in 1979 (Table 12). This compares with the 10-year average of \$548 per cow (Table 8). The 10-year average return above feed costs required to pay market prices for all nonfeed costs is estimated to be about \$550 per cow. The estimated return above feed costs currently required to attract new investments for dairy herds is about \$1,000 per cow. The high returns of the past 2 years above feed costs per cow have brought the 10-year average return up to the 10-year average cost for the first time on record. As dairy herds become larger, fewer in number and more efficient, they are beginning to be more competitive for available resources.

The data on dairy enterprises in Table 13 show a detailed breakdown for 1976 through 1979 on milk-production costs and returns for dairy farms, by the number of cows in the herd. The farms included had no other livestock except dairy cattle. All total costs were accounted for, either in crops grown or in the dairy enterprise. The total costs for the dairy enterprise were reduced by the amount of income derived from sales or from an inventory increase in the pounds of beef produced, valued at the average price received for all weights of dairy animals sold in 1975-1979. The residual costs amounting to 88 percent of the total enterprise costs were considered as the net cost of producing milk.

The most significant differences between the small and large herds for 1975-1979 were the averages for pounds of milk produced per cow and for the labor, machinery, and equipment cost per 100 pounds of milk produced. The large herds produced a 4-year average of 727 more pounds of milk per cow, had an average labor cost that was 22 cents lower, and had machinery and equipment costs that were 11 cents lower per 100 pounds of milk produced. With the exception of expenses for buildings and livestock, all costs averaged slightly lower for the large herds. The interest cost increased more for the large herds than for small herds in 1979, reflecting new investment in buildings and higher replacement values for animals added to the herd. The feed costs per unit of milk averaged about 54 percent of total cost for 1975-1979. The return above all costs for management averaged 96 cents more per 100 pounds milk produced for the large herds than for the small ones.

### Beef-cow herds

The minimum size for a beef-cow herd included in Table 14 was 10 cows. Farms with combinations of cow herds and purchased feeder cattle were not included. In addition to all farms, Table 14 shows an analysis of cow herds where calves were sold at weaning time, comparing them with those where calves were finished to slaughter weights. For 1956-1969, the average size of the herd on all farms ranged from 25 to 30 cows. From 1969 to 1973, the average grew to about 40 cows per herd and has been stable there for the past 6 years. Most Illinois farmers who maintain a beef-cow herd do so as a supplemental enterprise in order to market non-salable feeds and labor.

The return per \$100 of feed fed to beef-cow herds in 1979 averaged \$183, compared to \$199 in 1978 and

Table 13. — Milk Production Costs and Returns by Size of Herd, 1976-1979

	40 to 79 cows in herd				80 or more cows in herd			
	1979	1978	1977	1976	1979	1978	1977	1976
Number of farms .....	118	121	137	140	42	38	50	42
<b>Average per farm</b>								
Tillable acres .....	237	243	256	256	412	432	426	410
Number of cows .....	58.9	58.9	58.4	57.4	105.3	105.2	101.7	98.3
Milk per cow, lb. ....	13,420	13,515	13,830	13,092	14,590	14,022	14,303	13,850
	<b>Per 100 pounds of milk produced</b>				<b>Per 100 pounds of milk produced</b>			
Price received .....	\$11.68	\$10.02	\$ 9.18	\$ 9.25	\$11.65	\$10.24	\$ 9.23	\$ 9.30
Feed costs .....	5.95	5.22	5.07	5.59	5.28	5.42	5.15	5.47
Returns above feed costs .....	\$ 5.73	\$ 4.80	\$ 4.11	\$ 3.66	\$ 6.37	\$ 4.82	\$ 4.08	\$ 3.83
<b>Nonfeed costs</b>								
Buildings .....	\$ .45	\$ .40	\$ .34	\$ .34	\$ .50	\$ .50	\$ .45	\$ .38
Machinery and equipment .....	1.35	1.16	.98	.94	1.20	1.01	.92	.87
Labor .....	1.68	1.52	1.34	1.40	1.40	1.28	1.17	1.20
Livestock expenses .....	.64	.55	.49	.49	.67	.61	.55	.49
Taxes .....	.10	.09	.09	.09	.06	.04	.04	.04
Interest charge on all capital .....	1.21	.93	.93	.94	1.32	.86	.79	.78
Insurance and overhead .....	.12	.10	.10	.10	.13	.10	.09	.08
Total nonfeed costs .....	\$ 5.55	\$ 4.75	\$ 4.27	\$ 4.30	\$ 5.28	\$ 4.40	\$ 4.01	\$ 3.84
Total all costs .....	\$11.50	\$ 9.97	\$ 9.34	\$ 9.89	\$10.56	\$ 9.82	\$ 9.16	\$ 9.31
Returns above all costs .....	\$ .18	\$ .05	-\$ .16	-\$ .64	\$ 1.09	\$ .42	\$ .07	-\$ .01

Table 14. — Beef-Cow Enterprises, 1979

	All farms	Calves sold	Calves fed out
Number of farms .....	583	238	237
<b>Average per farm</b>			
Number of cows in herd ..	40	43	40
Animal units in herd .....	61	54	71
Total pounds produced ..	26,146	21,236	31,791
Beef per cow in herd, lb. . .	653	493	794
Total returns .....	\$21,100	\$17,742	\$25,482
Value of feed fed .....	\$11,497	\$ 9,270	\$14,077
Returns per \$100 of feed fed	\$ 183	\$ 191	\$ 181
Returns above feed per cow .	\$ 240	\$ 197	\$ 285
Death loss, lb. ....	1,654	1,802	1,645
Percent of pounds produced .....	6.2	8.4	5.1
Per 100 pounds produced			
Price received .....	\$ 66.10	\$ 68.02	\$ 64.75
Feed cost .....	43.97	43.65	44.27
Grain, lb. ....	256	143	327
Protein and minerals, lb. . .	42	35	48
Total concentrates .....	\$ 298	\$ 178	\$ 375
Hay and dry roughage, lb. .	634	772	547
Corn silage, lb. ....	344	310	333
Other silage, lb. ....	61	65	56
Pasture-days .....	32	41	28
Pasture-days per animal unit	138	162	125
Hay equivalent per cow, tons	5.0	4.6	5.3

\$107 in 1977. The return for 1975-1979 averaged \$135, which was \$9 below the 15-year (1965-1979) average (Table 7). Beef prices received in 1979 averaged \$66.10 per hundredweight, with \$48.96 in 1978. Feed costs increased from \$37.90 to \$43.97 per 100 pounds of beef produced. Beef prices increased 38 and 35 percent, respectively, in 1978 and in 1979.

The added return above feed costs for feeding-out calves over selling calves at weaning averaged \$43 per cow for 1975-1979. The additional return is for the added costs of labor, buildings, and the capital required to feed-out calves. The 1979 return above feed costs for feeding calves to market weight was \$88 higher per cow than for selling calves at weaning.

### Poultry enterprises

The minimum size of the flock included in Table 15 is 2,000 hens. The flocks averaged 13,964 hens. Poultry in Illinois is rapidly being concentrated in fewer but larger and more industrialized operations.

These relatively large commercial flocks used 4.7 pounds of feed concentrates per dozen eggs produced, or per 1.5 pounds of weight produced. For 1979, the feed cost per dozen eggs was 34 cents. Egg prices increased from 50 cents in 1978 to 51 cents in 1979.

In 1979, the return above feed costs per hen was \$1.99, compared to the 10-year average of \$1.94 (Table 8). About a third of these farms sold a major share of their eggs through retail outlets.

Table 15. — Poultry Enterprises, 1979

	Number of hens per farm 2,000 and over
Number of farms .....	8
<b>Average per farm</b>	
Poultry produced, lb. ....	12,698
Total returns from poultry .....	\$115,170
Total value of feed fed .....	\$ 87,401
Returns above feed fed per hen .....	\$ 1.99
Returns per \$100 of feed fed .....	\$ 131
Average number of hens .....	13,964
Eggs produced per hen .....	216
Percent production .....	59.2
Feed units <sup>a</sup> .....	260,249
Feed cost per unit <sup>a</sup> .....	\$ .34
Concentrates per feed unit, lb. ....	4.7
Cost per 100 pounds of concentrates .....	\$ 7.23
Price per dozen eggs sold .....	\$ .51

<sup>a</sup> One dozen eggs or 1.5 pounds of weight produced.

### Sheep enterprises

Sheep production is a minor enterprise on Illinois recordkeeping farms. The minimum size of enterprise in Table 16 is 3 animal units. One animal unit of sheep is defined as 750 pounds, liveweight. The return per \$100 of feed fed in 1979 was \$148 for native flocks. The pounds of wool and mutton produced per farm have remained fairly constant for the past 10 years. The price received for sheep increased from \$60.02 per hundredweight in 1978 to \$68.93 in 1979. Most Illinois farmers who keep sheep do so as a supplemental enterprise in order to market nonsalable feeds and labor.

Table 16. — Sheep Enterprise, 1979

	Native flocks
Number of farms .....	62
<b>Average per farm</b>	
Wool and mutton produced, lb. ....	3,670
Total returns .....	\$2,573
Value of feed fed .....	\$1,727
Returns per \$100 of feed fed .....	\$148
Percent lamb crop .....	125
Death loss, lb. ....	679
Percent of pounds produced .....	18.5
Per 100 pounds produced	
Price received .....	\$68.93
Feed cost .....	\$47.06
Concentrates, lb. ....	385
Hay, lb. ....	708
Corn silage, lb. ....	54
Pasture (pasture days) .....	27
Hay equivalent .....	1,399

**Costs, returns, financial summaries, investments, land use, and crop yields for different sizes and types of farms in northern and southern Illinois are reported in Tables 17 to 22a.**

Table 17. — Average Costs, Return, and Financial Summary of Grain Farms by Size and High Soil Rating, Northern Illinois, 1979<sup>a</sup>

GRAIN FARMS WITH SOIL RATING 86-100 <sup>b/</sup>								
Range in size (total acres).....	180-259	260-339	340-499	500-649	650-799	800-949	950-1199	1200-1999
Number of farms.....	46	79	262	184	104	57	41	26
Size of farm.....	222	304	418	571	718	868	1,065	1,408
Acres of tillable land.....	211	291	401	548	692	830	1,022	1,339
Soil rating on tillable land.....	94	93	94	93	93	94	93	92
DOLLAR COSTS PER FARM								
Soil fertility.....	\$ 7,123	\$ 9,459	\$ 13,772	\$ 18,839	\$ 24,273	\$ 30,444	\$ 38,869	\$ 45,826
Buildings and fence.....	2,450	2,339	3,218	4,252	5,181	5,364	7,056	10,210
Machinery and equipment.....	13,517	16,911	22,901	30,497	37,325	45,569	57,368	70,861
Labor.....	11,174	11,645	12,669	14,920	17,399	20,389	25,516	32,244
Taxes.....	4,169	5,490	7,594	10,162	13,018	15,357	19,052	21,701
Seed and crop expense.....	7,286	8,677	12,267	16,864	20,208	24,510	30,443	42,902
Livestock expense.....	45	48	78	97	93	160	152	229
Insurance and miscellaneous expense.....	1,951	2,085	2,959	3,694	4,284	4,895	6,263	9,262
Interest on capital.....	29,503	39,621	55,982	75,400	95,557	112,517	138,167	179,377
Total non-feed costs.....	77,218	96,277	131,440	174,725	217,336	259,205	322,885	412,611
Total value of feed fed.....	52	47	56	131	109	167	200	234
DOLLAR RETURNS PER FARM								
Feed and grain returns.....	\$ 72,870	\$ 98,601	\$ 137,778	\$ 189,656	\$ 241,189	\$ 295,683	\$ 361,601	\$ 466,461
Livestock return above feed.....	-32	65	29	158	-1	67	324	873
Custom work.....	706	938	1,297	1,491	2,047	2,463	3,932	8,432
Other cash income.....	975	773	1,233	1,524	2,228	1,651	3,492	3,635
Value of farm production.....	74,519	100,378	140,338	192,829	245,464	299,864	369,348	479,401
Management returns.....	-2,700	4,101	8,898	18,103	28,127	40,659	46,463	66,790
Farm Production per \$1.00 of non-feed costs.....	.97	1.04	1.07	1.10	1.13	1.16	1.14	1.16
Farm production per man.....	74,478	95,234	121,962	141,117	155,913	161,083	166,654	175,493
FINANCIAL SUMMARY								
Cash sales.....	\$ 73,137	\$ 89,164	\$ 123,943	\$ 171,566	\$ 209,203	\$ 250,515	\$ 318,051	\$ 429,788
Sales of capital items.....	286	623	915	807	1,966	288	1,331	9,914
Total cash income.....	73,423	89,787	124,858	172,372	211,169	250,804	319,382	439,702
Purchased livestock.....	244	2	79	266	313	224	91	53
Purchased feed.....	164	45	429	868	402	1,046	5,680	2,595
Cash operating expenses.....	29,101	35,979	50,773	69,235	87,087	107,004	138,172	174,553
Purchase of capital items.....	5,613	13,457	16,617	22,821	31,974	31,038	39,529	57,526
Total cash expenditures.....	35,122	49,483	67,898	93,190	119,775	139,312	183,471	234,727
Cash balance.....	\$ 38,300	\$ 40,303	\$ 56,959	\$ 79,181	\$ 91,393	\$ 111,491	\$ 135,911	\$ 204,975
Inventory change.....	1,751	11,259	16,879	22,336	36,936	48,982	57,014	52,215
Capital change.....	-2,458	3,029	2,260	3,639	7,737	4,324	5,932	7,734
Farm products consumed.....	39	3	24	61	39	81	53	46
Net farm earnings.....	37,632	54,593	76,121	105,217	136,106	164,878	198,911	264,970
Operator labor and mgt. earnings.....	\$ 7,857	\$ 14,591	\$ 19,652	\$ 29,010	\$ 38,898	\$ 49,945	\$ 57,157	\$ 78,264
Capital and mgt. earnings per acre.....	120.65	144.05	155.11	163.85	172.24	174.66	173.93	175.46
Rate earned on invest. %.....	3.84	4.56	4.82	5.19	5.41	5.63	5.55	5.67

<sup>a/</sup> Variations in totals are due to rounding to the nearest dollar. High soil ratings (86-100) include farms with nearly level well-drained prairie soils.

<sup>b/</sup> Value of feed fed to livestock was less than one percent of feed and grain returns.



Table 17a. — Average Operating Costs, Investments, and Land Use of Grain Farms by Size and High Soil Rating, Northern Illinois, 1979<sup>a</sup>

GRAIN FARMS WITH SOIL RATING 86-100 <sup>b/</sup>								
Range in size (total acres).....	180-259	260-339	340-499	500-649	650-799	800-949	950-1199	1200-1999
Number of farms.....	46	79	262	184	104	57	41	26
COSTS AND RETURNS PER								
TILLABLE ACRE								
Soil fertility.....	\$ 33.76	\$ 32.53	\$ 34.32	\$ 34.37	\$ 35.08	\$ 36.68	\$ 38.01	\$ 34.22
Buildings and fence.....	11.61	8.04	8.02	7.75	7.48	6.46	6.90	7.62
Machinery and equipment.....	64.08	58.17	57.08	55.63	53.95	54.90	56.11	52.92
Labor.....	52.97	40.05	31.57	27.22	25.14	24.56	24.95	24.08
Value of feed fed.....	.24	.16	.14	.23	.15	.20	.19	.17
Feed and grain returns.....	345.46	339.17	343.42	346.01	348.63	356.26	353.68	348.36
Livestock return above feed.....	-.15	.22	.07	.28	.00	.08	.31	.65
Value of farm production.....	353.27	345.28	349.80	351.80	354.81	361.30	361.25	358.02
Total non-feed costs.....	366.08	331.18	327.63	318.78	314.16	312.31	315.81	308.15
Management returns.....	-12.79	14.10	22.17	33.02	40.65	48.99	45.44	49.88
SELECTED COST ITEMS								
Fertilizer, annual.....	\$ 7,096	\$ 9,420	\$ 13,755	\$ 18,832	\$ 24,273	\$ 30,432	\$ 38,869	\$ 45,826
Building repairs.....	572	787	1,014	1,185	1,387	1,793	2,266	3,376
Building depreciation.....	1,878	1,552	2,204	3,067	3,794	3,570	4,790	6,834
Machinery and equipment depreciation....	5,880	8,215	11,222	15,301	18,476	22,843	27,476	33,044
Machinery repairs, supplies.....	2,330	3,031	4,317	6,112	7,367	9,560	12,222	15,556
Machinery hire.....	1,509	1,129	1,370	982	1,948	1,836	3,902	4,136
Gasoline and oil.....	2,513	3,235	4,428	6,224	7,304	9,439	11,005	14,305
Unpaid labor charge.....	10,829	10,872	11,242	11,714	12,423	13,258	14,281	18,802
Hired labor charge.....	345	773	1,427	3,206	4,976	7,131	11,235	13,441
Total months of labor.....	12.0	12.6	13.8	16.4	18.9	22.3	26.6	32.8
Months of hired labor.....	.3	.9	1.7	3.7	5.5	8.0	11.2	12.5
FARM INVESTMENT								
Livestock inventory.....	\$ 186	\$ 123	\$ 176	\$ 429	\$ 404	\$ 702	\$ 535	\$ 1,938
Grain inventory.....	54,952	65,493	98,438	138,122	173,664	198,917	245,094	297,421
Remaining capital cost in								
Machinery and auto.....	20,397	28,913	40,528	54,794	68,174	80,092	106,070	134,403
Buildings and fence.....	16,964	15,839	21,842	30,831	40,757	34,221	44,159	63,632
Soil fertility.....	155	23	49	23	0	41	0	0
Value of land (current).....	604,704	848,169	1,185,394	1,577,789	2,002,480	2,407,405	2,929,694	3,846,052
Total farm investment.....	697,358	958,559	1,346,426	1,801,986	2,285,479	2,721,379	3,325,552	4,343,446
Total investment per acre.....	3,139	3,158	3,219	3,156	3,183	3,135	3,124	3,085
Machinery investment								
per tillable acre.....	97	99	101	100	99	96	104	100
PERCENT OF TILLABLE LAND IN								
Corn and corn silage.....	50.7	52.6	51.9	52.4	50.8	52.6	55.1	54.4
Soybeans.....	44.5	45.0	45.3	45.5	45.8	43.4	42.2	44.0
Wheat.....	.0	.5	.2	.5	.2	.4	.2	.4
Other small grains.....	.0	.1	.0	.2	.1	.0	.0	.0
Diverted acres.....	.0	.2	.3	.1	.2	.2	.1	.4
All hay and pasture crops.....	.2	.2	.2	.4	.4	.2	.4	.3
CROP YIELDS, bu. per acre								
Corn.....	143	144	147	147	149	147	149	148
Soybeans.....	44	45	45	45	46	45	46	45
Wheat.....	0	66	62	57	54	56	70	57

<sup>a/</sup> Variations in totals are due to rounding to the nearest dollar. High soil ratings (86-100) include<sup>b/</sup> farms with nearly level well-drained prairie soils.<sup>b/</sup> Value of feed fed to livestock was less than one percent of feed and grain returns.

Table 18. — Average Costs, Return, and Financial Summary of Grain Farms by Size and Low Soil Rating, Northern Illinois, 1979<sup>a</sup>

	GRAIN FARMS WITH SOIL RATING 56-85 <sup>b/</sup>						
Range in size (total acres).....	180-259	260-339	340-499	500-649	650-799	800-1199	1200-1999
Number of farms.....	20	68	128	113	78	76	29
Size of farm.....	228	304	417	570	720	948	1,443
Acres of tillable land.....	205	286	394	531	670	884	1,345
Soil rating on tillable land.....	76	78	78	76	77	77	79
DOLLAR COSTS PER FARM							
Soil fertility.....	\$ 8,355	\$ 9,085	\$13,443	\$18,733	\$23,335	\$32,788	\$49,522
Buildings and fence.....	2,148	2,496	2,936	4,362	5,116	6,316	11,590
Machinery and equipment.....	12,088	17,408	23,309	30,420	35,230	47,654	70,862
Labor.....	10,972	11,371	12,582	14,636	16,463	20,558	27,543
Taxes.....	3,438	4,836	6,661	8,277	10,784	13,635	21,377
Seed and crop expenses.....	6,059	8,269	11,855	15,850	20,193	24,647	42,866
Livestock expense.....	34	69	118	64	81	97	100
Insurance and miscellaneous expense.....	1,742	1,999	2,539	3,421	4,656	4,926	8,225
Interest on capital.....	25,825	35,126	47,757	64,984	81,329	104,637	163,693
Total non-feed costs.....	70,660	90,658	121,202	160,747	197,187	255,258	395,778
Total value of feed fed.....	55	33	71	42	134	259	264
DOLLAR RETURNS PER FARM							
Feed and grain returns.....	\$67,972	\$91,575	\$126,762	\$173,218	\$213,823	\$289,706	\$438,465
Livestock returns above feed.....	139	1	165	1	122	204	-1
Custom work.....	452	1,377	1,694	1,861	3,519	3,092	2,686
Other cash income.....	408	899	1,438	1,560	1,881	2,674	4,178
Value of farm production.....	68,972	93,852	130,059	176,639	219,345	295,677	445,327
Management returns.....	-1,689	3,193	8,858	15,892	22,159	40,420	49,549
Farm production per \$1.00							
of non-feed costs.....	.98	1.04	1.07	1.10	1.11	1.16	1.13
Farm production per man.....	70,081	90,900	115,003	135,446	151,686	158,398	184,757
FINANCIAL SUMMARY							
Cash sales.....	\$60,340	\$82,532	\$113,719	\$152,338	\$186,801	\$252,100	\$376,989
Sales of capital items.....	994	229	494	730	2,156	1,562	3,504
Total cash income.....	61,334	82,761	114,213	153,068	188,957	253,662	380,493
Purchased livestock.....	0	42	326	41	96	243	979
Purchased feed.....	12	364	710	342	464	1,432	157
Cash operating expenses.....	27,984	34,477	48,899	64,971	83,030	108,617	175,201
Purchase of capital items.....	8,394	12,663	15,266	28,412	30,369	37,705	76,663
Total cash expenditures.....	36,390	47,546	65,200	93,767	113,959	147,997	253,000
Cash balance.....	\$24,943	\$35,214	\$49,012	\$59,301	\$74,997	\$105,664	\$127,492
Inventory change.....	8,639	11,716	17,359	24,680	33,019	45,173	69,440
Capital change.....	1,232	2,302	1,599	8,973	7,464	7,811	32,782
Farm products consumed.....	5	9	17	4	84	80	34
Net farm earnings.....	34,820	49,241	67,986	92,958	115,565	158,727	229,748
Operator labor and mgt. earnings.....	8,532	13,804	19,554	26,713	32,589	51,264	60,984
Capital and mgt. earnings per acre.....	105.98	126.05	135.81	141.78	143.81	153.60	148.05
Rate earned on invest. %.....	4.00	4.59	4.97	5.30	5.37	5.82	5.43

<sup>a/</sup> Variations in totals are due to rounding to the nearest dollar. Low soil ratings (56-85) include poorly drained, heavy-till and timber soils.

<sup>b/</sup> Value of feed fed to livestock was less than one percent of feed and grain returns.

Table 18a. — Average Operating Costs, Investments, and Land Use of Grain Farms by Size and Low Soil Rating, Northern Illinois, 1979<sup>a</sup>

	GRAIN FARMS WITH SOIL RATING 56-85 <sup>b/</sup>						
Range in size (total acres).....	180-259	260-339	340-499	500-649	650-799	800-1199	1200-1999
Number of farms.....	20	68	128	113	78	76	29
COSTS AND RETURNS PER TILLABLE ACRE							
Soil fertility.....	\$ 40.83	\$ 31.71	\$ 34.09	\$ 35.25	\$ 34.82	\$ 37.09	\$ 36.83
Buildings and fence.....	10.49	8.71	7.44	8.20	7.63	7.14	8.61
Machinery and equipment.....	59.08	60.76	59.11	57.25	52.57	53.91	52.70
Labor.....	53.62	39.69	31.91	27.54	24.56	23.25	20.48
Value of feed fed.....	.26	.11	.17	.07	.19	.29	.19
Feed and grain returns.....	332.21	319.64	321.50	326.00	319.08	327.77	326.09
Livestock return above feed.....	.68	.00	.41	.00	.18	.23	.00
Value of farm production.....	337.10	327.59	329.87	332.44	327.32	334.53	331.20
Total non-feed costs.....	345.36	316.45	307.40	302.54	294.26	288.80	294.35
Management returns.....	-8.25	11.14	22.46	29.90	33.06	45.73	36.85
SELECTED COST ITEMS							
Fertilizer, annual.....	\$ 8,355	\$ 9,079	\$13,438	\$18,717	\$23,331	\$32,788	\$49,509
Building repairs.....	443	687	711	1,038	1,169	1,440	4,276
Building depreciation.....	1,705	1,809	2,226	3,324	3,947	4,876	7,315
Machinery and equipment depreciation....	4,463	8,318	10,942	15,370	16,798	23,456	33,050
Machinery repairs, supplies.....	2,384	3,295	4,413	5,448	6,863	9,132	13,480
Machinery hire.....	1,461	1,383	1,580	1,623	2,035	2,204	4,799
Gasoline and oil.....	2,573	3,134	4,725	5,819	7,424	9,888	15,807
Unpaid labor charge.....	10,684	10,923	11,372	12,083	12,078	13,672	16,506
Hired labor charge.....	288	448	1,210	2,553	4,385	6,887	11,037
Total months of labor.....	11.8	12.4	13.6	15.6	17.4	22.4	28.9
Months of hired labor.....	.3	.6	1.3	2.6	4.3	7.6	11.1
FARM INVESTMENT							
Livestock inventory.....	\$ 207	\$ 168	\$ 468	\$ 104	\$ 421	\$ 705	\$ 645
Grain inventory.....	50,352	62,163	81,126	116,266	146,160	176,047	270,831
Remaining capital cost in							
Machinery and auto.....	19,233	29,322	39,476	58,931	66,568	90,487	130,186
Buildings and fence.....	16,060	16,115	21,799	34,200	38,559	49,435	76,095
Soil fertility.....	0	17	53	88	9	0	131
Value of land (current).....	517,094	726,423	996,987	1,317,738	1,676,404	2,175,317	3,448,090
Total farm investment.....	602,947	834,209	1,139,907	1,527,326	1,928,121	2,491,991	3,925,977
Total investment per acre.....	2,647	2,744	2,735	2,677	2,679	2,630	2,721
Mach. investment per tillable acre.....	94	102	100	111	99	102	97
PERCENT OF TILLABLE LAND IN							
Corn and corn silage.....	57.3	49.7	52.7	51.6	54.4	54.0	54.9
Soybeans.....	39.6	46.7	42.0	43.2	42.5	42.6	40.2
Wheat.....	1.6	1.7	1.2	2.0	1.4	2.3	.9
Other small grains.....	.3	.1	.2	.1	.0	.0	.1
Diverted acres.....	.8	.3	.7	.7	.4	.3	.9
All hay and pasture crops.....	.4	.4	.5	.3	.3	.4	.7
CROP YIELDS, bu. per acre							
Corn.....	138	137	135	137	134	141	139
Soybeans.....	45	43	43	42	41	43	43
Wheat.....	56	57	50	52	50	55	63

<sup>a/</sup> Variations in totals are due to rounding to the nearest dollar. Low soil ratings (56-85) include poorly drained, heavy-till and timber soils.

<sup>b/</sup> Value of feed fed to livestock was less than one percent of feed and grain returns.



Table 19. — Average Costs, Return, and Financial Summary of Hog Farms by Size and Soil Rating, Northern Illinois, 1979<sup>a</sup>

	HOG FARMS WITH SOIL RATING 86-100					HOG FARMS WITH SOIL RATING 56-85					
Range in size (total acres).	180-259	260-339	340-499	500-649	650-1999	0-179	180-259	260-339	340-499	500-649	650-1999
Number of farms.....	20	24	31	25	10	34	49	53	67	45	69
Size of farm.....	219	295	404	580	859	115	223	299	415	575	838
Acres of tillable land.....	202	279	360	509	759	96	185	244	348	438	612
Soil rating on tillable land	92	93	92	91	91	76	72	73	77	72	72
Beef produced, cwt.....	49	66	207	396	1,090	12	105	150	254	492	588
Pork produced, cwt.....	2,075	2,923	3,241	4,640	7,749	2,962	2,145	2,081	2,998	2,860	4,794
DOLLAR COSTS PER FARM											
Soil fertility.....	\$ 7,976	\$ 9,583	\$13,632	\$18,499	\$33,463	\$ 3,288	\$ 6,664	\$ 8,411	\$12,350	\$15,714	\$21,826
Buildings and fence.....	6,311	8,076	11,611	18,076	42,796	8,045	7,119	7,148	12,326	12,793	19,181
Machinery and equipment.....	21,644	26,562	34,733	48,024	61,795	16,984	19,021	23,948	31,491	36,360	52,967
Labor.....	15,168	16,333	22,195	30,534	49,512	22,207	14,512	17,185	19,848	20,739	31,722
Taxes.....	4,093	5,210	6,965	9,705	13,910	2,034	3,143	4,048	5,489	6,716	9,025
Seed and crop expenses.....	6,762	9,846	11,496	16,125	27,673	3,244	5,366	7,263	9,778	14,350	18,583
Livestock expenses.....	3,785	4,821	5,777	12,698	17,801	6,329	3,142	3,552	4,728	5,513	8,183
Insurance and misc. expense.	2,867	2,811	3,843	6,677	11,069	3,925	2,228	2,685	3,455	3,885	6,189
Interest on capital.....	34,732	46,701	62,066	90,684	156,038	23,623	29,736	38,175	56,431	67,027	93,358
Total non-feed costs.....	103,337	129,942	172,318	251,022	414,058	89,680	90,930	112,416	155,897	183,098	261,034
Total value of feed fed.....	57,397	81,432	98,185	144,823	245,869	78,749	62,386	68,415	93,470	100,624	156,757
DOLLAR RETURNS PER FARM											
Feed and grain returns.....	\$68,971	\$91,787	\$122,972	\$171,495	\$267,213	\$31,817	\$54,441	\$68,865	\$105,090	\$127,330	\$180,218
Livestock return above feed.	18,546	25,874	29,533	52,474	110,406	37,348	25,453	21,749	33,530	36,841	61,118
Custom work.....	481	915	876	2,013	1,328	131	325	780	1,174	1,309	1,583
Other cash income.....	757	853	1,462	2,898	6,890	2,236	1,213	1,373	1,930	3,230	4,874
Value of farm production....	88,755	119,429	154,843	228,881	385,837	71,532	81,432	92,766	141,725	168,710	247,793
Management returns.....	-14,582	-10,513	-17,475	-22,141	-28,221	-18,147	-9,497	-19,649	-14,172	-14,388	-13,241
Farm production per \$1.00 of non-feed costs.....	.86	.92	.90	.91	.93	.80	.90	.83	.91	.92	.95
Farm production per man.....	62,284	81,256	78,530	85,895	110,318	46,906	60,919	60,862	80,058	87,114	92,868
FINANCIAL SUMMARY											
Cash sales.....	\$127,825	\$169,770	\$223,284	\$319,738	\$577,678	\$138,608	\$129,677	\$135,380	\$202,559	\$230,450	\$348,693
Sales of capital items.....	0	558	1,034	1,762	2,327	799	197	1,182	826	544	1,737
Total cash income.....	127,825	170,328	224,318	321,500	580,005	139,407	129,875	136,563	203,385	230,994	350,431
Purchased livestock.....	8,663	9,184	13,746	30,767	110,535	4,534	14,131	13,918	19,490	28,952	40,393
Purchased feed.....	29,715	41,761	47,830	68,823	121,700	60,935	34,639	33,979	47,020	51,321	78,305
Cash operating expenses.....	42,116	51,581	72,713	113,534	188,785	41,092	35,422	46,250	62,456	77,117	117,628
Purchase of capital items....	31,455	27,968	30,443	45,075	104,737	25,813	15,157	21,939	44,869	39,917	62,841
Total cash expenditures.....	111,949	130,494	164,732	258,199	525,757	132,375	99,348	116,085	173,834	197,308	299,167
Cash balance.....	\$15,875	\$39,834	\$59,585	\$63,301	\$54,248	\$ 7,032	\$30,526	\$20,478	\$29,550	\$33,685	\$51,263
Inventory change.....	-1,193	243	-7,471	8,219	39,442	-1,785	130	4,877	5,148	17,873	17,039
Capital change.....	17,684	9,991	7,118	11,086	47,143	12,328	1,326	5,558	21,136	14,623	26,860
Farm products consumed.....	501	361	607	514	952	179	395	405	527	661	759
Net farm earnings.....	32,868	50,429	59,838	83,120	141,785	17,753	32,376	31,319	56,361	66,842	95,921
Opr. labor and mgt. earnings	-4,037	472	-6,375	-11,485	-19,341	-7,891	1,244	-8,741	-2,962	-3,596	-2,758
Capital and mgt. earnings											
per acre.....	91.97	122.50	110.51	118.08	148.83	47.61	90.67	61.92	101.81	91.50	95.65
Rate earned on invest. %....	2.72	3.57	3.34	3.55	4.11	1.30	3.35	2.35	3.59	3.72	4.08

<sup>a</sup> Variations in totals are due to rounding to the nearest dollar.

Table 19a. — Average Operating Costs, Investments, and Land Use of Hog Farms by Size and Soil Rating, Northern Illinois, 1979<sup>a</sup>

	HOG FARMS WITH SOIL RATING 86-100					HOG FARMS WITH SOIL RATING 56-85					
Range in size (total acres).	180-259	260-339	340-499	500-649	650-1999	0-179	180-259	260-339	340-499	500-649	650-1999
Number of farms.....	20	24	31	25	10	34	49	53	67	45	69
<b>COSTS AND RETURNS PER TILLABLE ACRE</b>											
Soil fertility.....	\$ 39.41	\$ 34.40	\$ 37.85	\$ 36.34	\$ 44.10	\$ 34.33	\$ 36.10	\$ 34.44	\$ 35.52	\$ 35.89	\$ 35.65
Buildings and fence.....	31.19	28.99	32.24	35.51	56.40	84.00	38.56	29.27	35.45	29.22	31.33
Machinery and equipment.....	106.96	95.37	96.45	94.36	81.44	177.35	103.05	98.07	90.58	83.05	86.52
Labor.....	74.95	58.64	61.63	59.99	65.25	231.89	78.62	70.37	57.09	47.37	51.82
Value of feed fed.....	283.65	292.39	272.66	284.56	324.06	822.31	338.00	280.17	268.88	229.84	256.07
Feed and grain returns.....	340.85	329.57	341.49	336.97	352.19	332.24	294.95	282.01	302.30	290.84	294.40
Livestock return above feed.	91.65	92.90	82.01	103.10	145.51	389.99	137.90	89.06	96.45	84.14	99.84
Value of farm production....	438.62	428.83	430.00	449.73	508.55	746.96	441.19	379.89	407.69	385.35	404.79
Total non-feed costs.....	510.68	466.58	478.53	493.24	545.75	936.46	492.65	460.36	448.46	418.22	426.42
Management returns.....	-72.06	-37.74	-48.52	-43.50	-37.19	-189.49	-51.45	-80.46	-40.76	-32.86	-21.63
<b>SELECTED COST ITEMS</b>											
Fertilizer, annual.....	\$ 7,976	\$ 9,583	\$ 13,632	\$ 18,499	\$ 33,463	\$ 3,288	\$ 6,664	\$ 8,393	\$ 12,242	\$ 15,665	\$ 21,826
Building repairs.....	1,257	1,875	3,169	4,155	9,326	1,311	1,280	1,673	2,534	2,430	5,419
Building depreciation.....	5,054	6,201	8,442	13,921	33,470	6,735	5,839	5,475	9,792	10,364	13,762
Machinery & equipment depr.	8,716	11,217	13,849	18,306	21,798	5,953	7,795	9,705	13,007	14,338	20,481
Machinery repairs, supplies.	4,453	4,947	7,627	11,536	15,177	3,764	4,252	5,633	7,005	8,387	13,535
Machinery hire.....	1,814	2,017	2,835	3,521	4,567	1,986	1,331	1,801	2,429	2,480	3,119
Gasoline and oil.....	4,094	4,985	6,300	8,743	10,736	2,232	3,256	3,885	5,759	7,383	10,103
Unpaid labor charge.....	12,719	14,241	15,248	14,578	13,968	12,278	12,138	12,793	14,103	14,204	15,805
Hired labor charge.....	2,449	2,091	6,948	15,956	35,544	9,929	2,373	4,392	5,746	6,535	15,917
Total months of labor.....	17.1	17.6	23.7	32.0	42.0	18.3	16.0	18.3	21.2	23.2	32.0
Months of labor hired.....	3.4	2.2	7.2	16.2	26.9	5.0	2.9	4.5	6.0	7.9	14.9
<b>FARM INVESTMENT</b>											
Livestock inventory.....	\$38,598	\$54,882	\$80,344	\$122,161	\$259,688	\$54,698	\$45,744	\$53,179	\$72,334	\$93,454	\$141,912
Grain inventory.....	42,820	61,383	79,195	104,597	171,485	23,878	35,489	43,779	64,678	79,790	105,975
Remaining capital cost in											
Machinery and auto.....	31,310	38,628	49,955	67,644	90,163	20,848	28,642	41,021	49,729	55,289	78,134
Buildings and fence.....	46,639	48,781	69,840	124,396	338,926	61,721	46,772	54,675	90,560	89,689	121,658
Soil fertility.....	0	0	0	0	0	0	0	74	201	170	0
Value of land (current).....	582,542	810,589	1,055,021	1,514,050	2,246,123	260,556	446,799	595,129	898,732	1,096,330	1,516,186
Total farm investment.....	741,908	1,014,263	1,334,354	1,932,848	3,106,386	421,700	603,445	787,858	1,176,235	1,414,722	1,963,864
Total investment per acre....	3,386	3,433	3,307	3,330	3,617	3,667	2,703	2,633	2,834	2,459	2,345
Mach. invest./till. acre....	155	139	139	133	119	218	155	168	143	126	128
<b>PERCENT OF TILLABLE LAND IN</b>											
Corn and corn silage.....	66.2	72.1	64.9	63.9	77.8	69.1	66.5	63.8	63.5	62.8	64.0
Soybeans.....	25.4	18.4	24.2	24.7	14.6	17.7	17.1	18.3	20.0	20.6	18.1
Wheat.....	.2	1.7	1.2	1.3	.8	2.5	1.4	2.7	2.2	3.5	2.9
Other small grains.....	4.0	2.9	2.9	1.9	.4	4.6	4.3	3.3	3.5	1.8	2.2
Diverted acres.....	.1	.2	.6	.7	.5	.8	.5	.4	.6	.9	1.2
All hay and pasture crops...	3.9	3.9	5.8	5.4	6.2	5.7	9.5	10.9	9.4	9.4	10.5
<b>CROP YIELDS, bu. per acre</b>											
Corn.....	141	138	141	140	142	130	130	125	134	130	128
Soybeans.....	48	44	48	48	46	43	41	40	44	42	42
Wheat.....	49	55	61	70	62	62	58	59	62	54	55
Oats.....	75	76	77	82	70	69	76	65	76	58	68

<sup>a/</sup> Variations in totals are due to rounding to the nearest dollar.

Table 20. — Average Costs, Return, and Financial Summary of Grain and Hog Farms by Size and Soil Rating, Southern Illinois, 1979<sup>a</sup>

	GRAIN FARMS WITH SOIL RATING 36-85						HOG FARMS WITH SOIL RATING 36-85				
Range in size (total acres)	260-339	340-499	500-649	650-949	950-1199	1200-1999	180-259	260-339	340-499	500-649	649-1999
Number of farms.....	61	176	161	207	82	66	26	37	51	29	40
Size of farm.....	298	424	574	777	1,065	1,467	232	296	413	567	885
Acres of till. land.....	269	379	498	690	949	1,271	199	236	354	458	677
Soil rating on till. land..	64	62	60	60	61	59	61	58	61	60	58
Beef produced, cwt.....	72	85	122	130	152	250	106	105	94	235	385
Pork produced, cwt.....	188	309	371	457	457	715	2,115	1,646	2,547	2,674	4,122
DOLLAR COSTS PER FARM											
Soil fertility.....	\$ 7,614	\$11,397	\$14,488	\$20,888	\$31,063	\$39,854	\$ 7,302	\$ 8,004	\$11,014	\$14,344	\$22,858
Buildings and fence.....	2,270	3,307	3,937	5,916	6,609	11,198	6,707	6,326	7,864	11,425	17,397
Machinery and equipment....	17,063	22,835	28,847	38,751	50,053	72,335	20,634	19,474	29,427	37,096	52,274
Labor.....	11,814	14,077	14,884	18,032	23,189	30,356	15,380	14,520	17,690	20,358	28,961
Taxes.....	3,174	3,688	4,664	6,117	8,638	10,479	2,380	2,543	3,651	5,113	6,534
Seed and crop expenses....	6,300	8,706	11,419	16,067	21,325	29,181	5,205	5,589	8,471	9,931	16,899
Livestock expense.....	350	596	787	814	910	1,261	2,939	2,050	3,726	4,545	5,893
Insurance and misc. exp....	1,470	2,031	2,442	3,134	4,012	5,403	1,687	1,766	2,284	3,405	4,461
Interest on capital.....	25,480	34,966	44,444	61,823	82,635	112,185	25,653	27,064	41,093	53,200	76,012
Total non-feed costs.....	75,535	101,602	125,912	171,542	228,434	312,252	87,886	87,336	125,221	159,417	231,290
Total value of feed fed....	8,246	11,646	13,958	18,390	19,192	31,935	60,494	49,356	72,690	79,344	126,125
DOLLAR RETURNS PER FARM											
Feed and grain returns....	\$73,041	\$100,643	\$132,127	\$188,898	\$257,108	\$341,534	\$55,233	\$55,577	\$98,128	\$124,574	\$164,730
Livestock return above feed	3,450	5,453	8,816	7,279	7,550	12,625	22,144	14,036	23,614	28,510	49,712
Custom work.....	524	625	1,176	1,125	1,675	2,389	521	381	277	265	372
Other cash income.....	1,116	1,332	1,796	2,000	2,859	5,203	1,388	1,363	1,438	2,989	3,760
Value of farm production...	78,131	108,052	143,915	199,303	269,191	361,751	79,285	71,357	123,457	156,338	218,574
Management returns.....	2,596	6,450	18,003	27,761	40,757	49,499	-8,600	-15,979	-1,763	-3,079	-12,716
Farm production per \$1.00 of non-feed cost.....	1.03	1.06	1.14	1.16	1.18	1.16	.90	.82	.99	.98	.95
Farm production per man....	71,633	83,354	101,848	119,354	127,067	134,517	58,095	55,701	79,734	85,611	82,761
FINANCIAL SUMMARY											
Cash sales.....	\$79,523	\$106,577	\$135,387	\$197,094	\$249,407	\$335,553	\$132,553	\$113,284	\$174,398	\$220,046	\$299,201
Sales of capital items.....	180	811	608	1,007	1,946	2,234	748	1,067	314	615	602
Total cash income.....	79,703	107,387	135,995	198,101	251,353	337,787	133,302	114,351	174,713	220,661	299,802
Purchased livestock.....	3,477	4,571	5,875	9,190	8,810	12,541	20,235	14,551	16,618	27,002	31,670
Purchased feed.....	3,827	5,832	6,345	11,389	9,720	18,906	35,921	27,272	40,552	40,861	63,959
Cash operating expenses....	29,265	41,447	51,812	72,968	100,903	138,922	35,621	35,005	51,080	66,493	100,828
Purchase of capital items..	15,024	19,349	25,782	35,674	50,588	65,363	17,114	23,196	38,810	41,482	54,469
Total cash expenditures....	51,594	71,200	89,813	129,221	170,021	235,732	108,891	100,024	147,059	175,837	250,926
Cash balance.....	\$28,109	\$36,186	\$46,181	\$68,880	\$81,332	\$102,055	\$24,410	\$14,327	\$27,653	\$44,824	\$48,876
Inventory change.....	5,644	11,592	20,478	22,438	37,943	57,144	2,503	-492	5,845	3,648	14,394
Capital change.....	4,897	5,532	7,972	11,577	19,101	20,046	2,668	8,861	18,877	15,480	15,929
Farm products consumed....	267	287	270	349	372	501	385	388	383	507	608
Farm and family earnings...	38,917	53,597	74,901	103,244	138,748	179,747	29,966	23,084	52,759	64,459	79,807
Opr. labor and mgt. earning Capital and management	13,036	17,172	28,564	38,350	51,742	60,936	2,197	-5,554	8,869	7,814	-1,685
earnings per acre.....	94.20	97.90	108.82	115.41	116.07	110.68	73.59	37.42	95.79	88.45	72.33
Rate earned on invest. %..	4.77	5.18	6.16	6.35	6.46	6.35	3.41	2.03	4.69	4.59	4.08

<sup>a</sup> Variations in totals are due to rounding to the nearest dollar.



**Table 20a. — Average Operating Costs, Investments, and Land Use of Grain and Hog Farms  
by Size and Soil Rating, Southern Illinois, 1979<sup>a</sup>**

	GRAIN FARMS WITH SOIL RATING 36-85						HOG FARMS WITH SOIL RATING 36-85				
Range in size (total acres)	260-339	340-499	500-649	650-949	950-1199	1200-1999	180-259	260-339	340-499	500-649	650-1999
Number of farms.....	61	176	161	207	82	66	26	37	51	29	40
<b>COSTS AND RETURNS PER TILLABLE ACRE</b>											
Soil fertility.....	\$ 28.30	\$ 30.04	\$ 29.06	\$ 30.25	\$ 32.73	\$ 31.34	\$ 36.72	\$ 33.85	\$ 31.07	\$ 31.32	\$ 33.78
Buildings and fence.....	8.43	8.71	7.89	8.57	6.96	8.80	33.73	26.76	22.18	24.94	25.71
Machinery and equipment....	63.43	60.20	57.87	56.13	52.74	56.89	103.78	82.37	83.03	81.00	77.26
Labor.....	43.91	37.11	29.86	26.12	24.43	23.87	77.35	61.42	49.91	44.45	42.80
Value of feed fed.....	30.65	30.70	28.00	26.63	20.22	25.11	304.28	208.77	205.11	173.25	186.42
Feed and grain returns.....	271.52	265.36	265.08	273.62	270.95	268.64	277.81	235.09	276.89	272.01	243.48
Livestock return above feed	12.82	14.37	17.68	10.54	7.95	9.93	111.38	59.37	66.63	62.25	73.47
Value of farm production...	290.44	284.90	288.74	288.70	283.69	284.54	398.80	301.84	348.36	341.37	323.07
Total non-feed costs.....	280.80	267.90	252.62	248.49	240.74	245.61	442.06	369.43	353.34	348.10	341.87
Management returns.....	9.64	17.00	36.12	40.21	42.95	38.93	-43.25	-67.59	-4.97	-6.72	-18.79
<b>SELECTED COST ITEMS</b>											
Fertilizer, annual.....	\$ 7,605	\$11,382	\$14,475	\$20,812	\$31,020	\$39,745	\$ 7,302	\$ 7,996	\$10,858	\$14,344	\$22,713
Building repairs.....	662	971	998	1,640	1,758	3,133	1,397	1,280	1,586	2,315	3,006
Building depreciation.....	1,607	2,336	2,939	4,276	4,851	8,065	5,310	5,046	6,277	9,110	14,391
Mach. and equip. deprec....	8,331	10,656	14,250	18,740	24,646	35,098	8,387	8,214	13,185	16,276	23,403
Mach. repairs, supplies....	3,165	4,698	5,796	8,212	10,811	15,098	4,651	4,489	6,146	8,342	11,512
Machinery hire.....	892	1,289	1,421	1,782	2,160	4,285	1,372	995	1,682	2,585	2,393
Gasoline and oil.....	3,162	4,421	5,527	7,627	9,955	13,921	3,620	3,278	5,170	6,481	9,995
Unpaid labor charge.....	10,842	12,182	12,455	13,659	15,356	17,873	12,914	12,000	13,429	14,337	16,511
Hired labor charge.....	972	1,895	2,429	4,373	7,833	12,483	2,465	2,520	4,261	6,021	12,450
Total months of labor.....	13.1	15.6	17.0	20.0	25.4	32.3	16.4	15.4	18.6	21.9	31.7
Months of labor hired.....	1.4	2.4	3.5	5.3	8.8	12.9	2.4	2.4	4.1	6.4	13.8
<b>FARM INVESTMENT</b>											
Livestock inventory.....	\$ 9,673	\$13,401	\$17,456	\$21,303	\$23,458	\$37,907	\$43,088	\$36,747	\$52,296	\$69,581	\$106,607
Grain inventory.....	38,012	53,130	66,154	96,531	126,920	179,244	34,137	34,364	55,097	70,109	93,946
Remaining capital cost in											
Machinery and auto.....	29,195	42,268	55,562	75,979	99,639	141,726	32,777	32,605	54,165	67,721	92,048
Buildings and fence.....	11,503	18,200	23,804	32,807	37,309	59,461	38,059	40,850	51,542	64,908	100,827
Soil fertility.....	21	38	20	99	54	353	0	25	296	0	644
Value of land (current)....	500,664	672,354	850,680	1,183,391	1,622,018	2,128,638	352,213	401,447	625,367	819,754	1,158,446
Total farm investment.....	589,068	799,390	1,013,677	1,410,109	1,909,398	2,547,329	500,275	546,036	838,763	1,092,073	1,552,519
Total investment per acre..	1,976	1,887	1,765	1,814	1,792	1,736	2,159	1,843	2,032	1,927	1,754
Mach. invest./till. acre...	109	111	111	110	105	111	165	138	153	148	136
<b>PERCENT OF TILLABLE LAND IN</b>											
Corn and corn silage.....	33.1	33.0	34.4	35.0	39.0	38.9	58.3	47.1	43.3	44.6	48.6
Soybeans.....	46.2	45.1	45.9	46.3	44.0	42.4	21.1	26.5	34.0	36.9	28.7
Wheat.....	15.4	15.8	13.7	14.2	13.6	12.6	11.7	10.6	16.5	11.6	11.3
Diverted acres.....	1.6	1.6	1.2	1.6	.7	1.6	.3	2.2	.5	2.0	1.8
All hay and pasture crops..	3.5	3.9	4.5	2.2	2.2	3.0	5.1	7.5	3.8	4.4	7.0
<b>CROP YIELDS, bu. per acre</b>											
Corn.....	125	122	123	123	120	118	121	110	119	120	115
Soybeans.....	41	39	40	40	40	40	40	35	41	41	37
Wheat.....	48	46	44	45	43	42	43	43	44	46	40

<sup>a</sup>/ Variations in totals are due to rounding to the nearest dollar.

**Table 21. — Average Costs, Return, and Financial Summary of Dairy Farms  
by Size and Soil Rating, Northern and Southern Illinois, 1979<sup>a</sup>**

DAIRY FARMS, NORTHERN ILLINOIS WITH SOIL RATING OF 56-100						DAIRY FARMS, SOUTHERN ILLINOIS WITH SOIL RATING OF 36-85				
Range in size (total acres). Number of farms.....	0-179 32	180-259 49	260-339 47	340-499 47	500+ 32	0-179 12	180-259 32	260-339 28	340-499 44	500+ 29
Size of farm.....	148	222	293	392	664	140	222	307	404	674
Acres of tillable land.....	127	187	238	321	494	126	194	272	355	554
Soil rating on tillable land	75	73	71	69	68	61	60	60	59	59
Dairy cows, number.....	40	51	55	65	90	44	52	64	69	91
Beef produced, cwt.....	6	23	13	39	199	0	0	0	5	31
Pork produced, cwt.....	38	138	84	258	343	18	9	59	65	358
DOLLAR COSTS PER FARM										
Soil fertility.....	\$ 3,577	\$ 4,688	\$ 6,729	\$ 9,630	\$18,231	\$ 4,421	\$ 7,546	\$10,002	\$14,821	\$19,352
Buildings and fence.....	3,794	5,723	6,609	8,945	15,768	4,644	5,336	7,350	7,055	11,655
Machinery and equipment.....	18,350	22,360	24,196	33,658	48,054	16,899	26,527	29,826	36,726	54,617
Labor.....	15,718	18,384	19,143	25,343	32,181	15,111	18,152	21,222	23,141	33,625
Taxes.....	2,286	2,947	3,942	5,055	7,826	1,560	2,174	3,015	3,699	5,559
Seed and crop expenses.....	3,027	4,758	5,607	8,879	12,984	2,718	3,930	6,071	7,663	13,858
Livestock expense.....	4,365	5,091	5,978	6,993	9,723	3,878	4,873	5,575	6,259	9,823
Insurance & misc. expense...	1,714	1,750	2,100	2,818	5,292	1,343	1,713	1,871	2,270	3,762
Interest on capital.....	21,289	29,918	35,377	48,031	74,993	16,605	26,261	34,582	41,117	63,348
Total non-feed costs.....	74,119	95,619	109,681	149,352	225,052	67,180	96,511	119,515	142,753	215,601
Total value of feed fed.....	37,734	49,535	52,899	70,513	105,919	35,679	49,512	58,609	63,919	94,318
DOLLAR RETURNS PER FARM										
Feed and grain returns.....	\$32,147	\$47,856	\$59,327	\$84,750	\$126,728	\$34,287	\$51,661	\$69,030	\$92,084	\$143,825
Livestock return above feed.	38,953	49,443	60,132	73,024	112,573	45,886	53,763	72,702	81,685	94,441
Custom work.....	253	554	836	1,019	805	217	269	211	473	786
Other cash income.....	1,076	1,051	1,849	2,567	3,466	1,539	1,811	2,562	2,344	4,216
Value of farm production...	72,429	98,904	122,143	161,359	243,571	81,928	107,503	144,506	176,586	243,269
Management returns.....	-1,690	3,285	12,462	12,007	18,519	14,749	10,992	24,991	33,834	27,668
Farm production per \$1.00 of non-feed cost.....	.98	1.03	1.11	1.08	1.08	1.22	1.11	1.21	1.24	1.13
Farm production per man.....	51,533	59,647	69,931	70,140	84,820	59,464	64,331	73,959	83,659	84,632
FINANCIAL SUMMARY										
Cash sales.....	\$80,693	\$107,705	\$127,666	\$171,295	\$260,116	\$85,129	\$116,774	\$149,909	\$176,810	\$269,532
Sales of capital items.....	1,296	284	214	314	1,481	466	246	407	88	281
Total cash income.....	81,989	107,989	127,879	171,609	261,597	85,595	117,020	150,315	176,898	269,813
Purchased livestock.....	4,232	6,106	3,754	11,597	18,741	9,300	3,893	5,280	4,277	15,550
Purchased feed.....	13,388	14,489	14,341	21,379	31,824	15,293	18,655	23,317	24,427	37,423
Cash operating expenses.....	30,226	39,068	44,285	63,843	100,616	26,713	40,809	51,262	62,920	103,074
Purchase of capital items...	18,647	19,273	28,141	41,477	75,899	22,485	22,228	35,579	34,777	57,698
Total cash expenditures.....	66,493	78,936	90,520	138,297	227,080	73,791	85,585	115,438	126,401	213,745
Cash balance.....	\$15,495	\$29,052	\$37,359	\$33,312	\$34,517	\$11,804	\$31,435	\$34,877	\$50,497	\$56,068
Inventory change.....	8,733	11,071	11,914	22,193	32,674	20,571	12,525	22,197	27,062	25,397
Capital change.....	8,232	6,297	13,809	21,093	43,649	12,378	6,646	16,401	12,267	26,642
Farm products consumed.....	622	723	658	848	1,345	822	753	997	881	1,313
Net farm earnings.....	33,083	47,143	63,741	77,446	112,185	45,575	51,359	74,472	90,707	109,421
Opr. labor and mgt. earnings	9,208	14,300	23,542	22,920	29,142	25,579	22,078	36,091	44,376	38,752
Capital & mgt. earnings/acre	132.14	149.66	163.06	153.16	140.86	224.49	168.02	194.25	185.50	135.06
Rate earned on invest, %....	4.60	5.43	6.40	6.09	6.10	10.09	7.42	8.90	9.14	7.06

<sup>a</sup>/ Variations in totals are due to rounding to the nearest dollar.

**Table 21a. — Average Operating Costs, Investments, and Land Use of Dairy Farms  
by Size and Soil Rating, Northern and Southern Illinois, 1979<sup>a</sup>**

	DAIRY FARMS, NORTHERN ILLINOIS WITH SOIL RATING OF 56-100					DAIRY FARMS, SOUTHERN ILLINOIS WITH SOIL RATING OF 36-85				
	0-179	180-259	260-339	340-499	500+	0-179	180-259	260-339	340-499	500+
Range in size (total acres). Number of farms.....	32	49	47	47	32	12	32	28	44	29
<b>COSTS AND RETURNS PER TILLABLE ACRE</b>										
Soil fertility.....	\$ 28.19	\$ 25.13	\$ 28.25	\$ 29.98	\$ 36.89	\$ 35.08	\$ 38.84	\$ 36.78	\$ 41.77	\$ 34.92
Buildings and fence.....	29.90	30.67	27.74	27.85	31.91	36.85	27.46	27.02	19.88	21.03
Machinery and equipment.....	144.66	119.85	101.58	104.81	97.25	134.11	136.56	109.68	103.52	98.56
Labor.....	123.91	98.54	80.37	78.91	65.13	119.92	93.44	78.04	65.23	60.68
Value of feed fed.....	297.48	265.53	222.08	219.57	214.37	283.16	254.89	215.53	180.18	170.21
Feed and grain returns.....	253.43	256.52	249.07	263.91	256.48	272.12	265.94	253.85	259.57	159.56
Livestock return above feed.	307.09	265.03	252.45	227.39	227.83	364.17	276.77	267.35	230.26	270.43
Value of farm production....	571.00	530.17	512.79	502.47	492.96	650.22	553.42	531.40	497.77	439.03
Total non-feed costs.....	584.33	512.56	460.47	465.09	455.48	533.17	496.84	439.51	402.40	389.10
Management returns.....	-13.32	17.60	52.31	37.39	37.48	117.05	56.58	91.90	95.37	49.93
<b>SELECTED COST ITEMS</b>										
Fertilizer, annual.....	\$ 3,577	\$ 4,688	\$ 6,729	\$ 9,630	\$18,231	\$ 4,421	\$ 7,546	\$ 9,820	\$14,806	\$19,339
Building repairs.....	1,544	1,545	1,675	2,260	3,815	1,106	1,528	1,748	1,997	3,503
Building depreciation.....	2,250	4,178	4,934	6,685	11,953	3,538	3,808	5,602	5,058	8,152
Machinery & equipment depr..	6,869	8,514	9,183	13,385	18,817	6,102	11,527	12,988	17,349	22,608
Machinery supplies, repair..	4,453	5,522	5,569	8,205	12,442	3,808	5,906	7,124	8,723	14,294
Machinery hire.....	1,784	1,731	2,303	2,519	3,259	1,905	1,921	1,496	1,799	4,055
Gasoline and oil.....	2,964	3,637	3,943	5,473	7,652	2,566	4,380	4,932	5,428	8,717
Unpaid labor charge.....	13,485	13,941	15,902	17,408	18,673	14,222	14,106	14,899	16,293	18,404
Hired labor charge.....	2,233	4,443	3,241	7,935	13,507	889	4,046	6,323	6,849	15,221
Total months of labor.....	16.9	19.9	21.0	27.6	34.5	16.5	20.1	23.4	25.3	34.5
Months of labor hired.....	2.3	4.8	3.8	8.8	14.3	1.2	4.8	7.3	7.7	14.6
<b>FARM INVESTMENT</b>										
Livestock inventory.....	\$38,580	\$45,193	\$45,685	\$64,894	\$106,358	\$38,931	\$48,719	\$62,997	\$64,396	\$89,716
Grain inventory.....	20,335	30,683	34,391	50,689	74,595	18,607	32,083	40,575	53,135	75,262
Remaining capital cost in										
Machinery and auto.....	25,160	33,955	36,676	51,990	76,068	25,797	42,910	52,410	63,231	94,035
Buildings and fence.....	31,789	44,657	50,978	78,609	131,085	20,756	34,453	46,893	44,983	72,070
Soil fertility.....	0	0	0	0	0	0	0	149	31	55
Value of land (current).....	310,314	457,539	579,455	739,273	1,144,676	206,760	343,605	466,001	594,215	958,465
Total farm investment.....	426,178	612,027	747,185	985,455	1,532,782	310,851	501,769	669,025	819,991	1,289,601
Total investment per acre...	2,874	2,759	2,547	2,514	2,309	2,226	2,263	2,182	2,030	1,914
Mach. invest./till. acre....	199	182	154	162	154	205	221	193	178	170
<b>PERCENT OF TILLABLE LAND IN</b>										
Corn and corn silage.....	44.9	50.0	52.1	56.7	58.8	45.4	48.2	39.9	39.5	42.5
Soybeans.....	5.2	2.3	3.8	6.4	5.6	13.1	14.4	21.9	24.3	26.9
Wheat.....	.3	.6	.1	1.2	1.5	6.5	13.9	11.5	16.1	15.8
Other small grains.....	9.2	10.2	8.1	5.9	5.8	.0	.0	.1	.0	.0
Diverted acres.....	.3	.6	1.2	.8	1.3	1.7	1.0	.6	1.0	.3
All hay and pasture crops...	40.2	36.0	34.3	28.1	26.9	33.2	22.3	25.8	18.5	14.1
<b>CROP YIELDS, bu. per acre</b>										
Corn.....	128	123	122	126	123	118	109	115	118	118
Soybeans.....	41	46	42	39	36	41	41	39	40	39
Wheat.....	54	42	63	50	48	43	41	45	45	40
Oats.....	60	70	62	60	57	0	0	80	0	0

<sup>a/</sup> Variations in totals are due to rounding to the nearest dollar.



Table 22. — Average Costs, Return, and Financial Summary of Beef-Cattle and Part-Time Farms  
by Size and Soil Rating, Northern and Southern Illinois, 1979<sup>a</sup>

	BEEF-CATTLE FARMS, NORTHERN ILLINOIS					BEEF-CATTLE FARMS, SOUTHERN ILLINOIS <sup>b</sup>		PART-TIME FARMS NORTHERN ILLINOIS <sup>b</sup>	
	SOIL RATING 56-100					SOIL RATING 36-85		SOIL RATING 56-100 <sup>b</sup>	
Range in size (total acres).....	260-339	340-499	500-649	650-949	950-1999	Under 500	500+	0-259	260+
Number of farms.....	21	49	19	19	13	18	13	126	61
Size of farm.....	300	400	557	817	1,205	321	856	179	387
Acres of tillable land.....	252	334	496	661	1,021	230	583	163	346
Soil rating on tillable land.....	79	79	83	79	82	58	57	84	82
Beef produced, cwt.....	1,416	1,892	2,566	3,586	4,386	789	1,534	26	52
Pork produced, cwt.....	293	443	641	1,412	1,123	239	585	65	24
DOLLAR COSTS PER FARM									
Soil fertility.....	\$10,374	\$12,897	\$17,308	\$26,911	\$43,082	\$ 7,900	\$21,460	\$ 5,390	\$12,318
Buildings and fence.....	6,096	9,992	11,488	18,395	21,268	4,201	8,674	2,155	3,109
Machinery and equipment.....	25,651	33,774	44,742	56,228	78,194	20,916	39,227	10,903	18,978
Labor.....	13,416	15,773	19,808	28,459	35,821	14,951	24,711	5,364	6,781
Taxes.....	4,538	5,498	7,773	11,687	16,083	2,430	6,479	2,976	5,829
Seed and crop expenses.....	7,259	10,071	13,879	20,359	32,660	4,841	13,821	5,260	9,558
Livestock expense.....	3,010	3,622	5,702	6,798	6,902	2,157	3,889	209	156
Insurance and misc. expense.....	2,217	3,443	4,221	5,887	10,166	1,827	3,507	1,558	2,495
Interest on capital.....	46,555	63,447	92,188	125,294	175,084	26,933	66,492	21,595	44,596
Total non-feed costs.....	119,116	158,516	217,108	300,018	419,259	86,154	188,260	55,411	103,820
Total value of feed fed.....	66,042	91,384	135,649	183,710	219,137	41,988	87,046	3,301	2,560
DOLLAR RETURNS PER FARM									
Feed and grain returns.....	\$77,129	\$105,538	\$151,183	\$213,196	\$310,485	\$54,191	\$148,079	\$51,748	\$105,343
Livestock return above feed.....	28,031	38,382	54,967	77,730	73,207	27,311	39,087	1,061	2,465
Custom work.....	1,534	1,982	2,461	1,755	2,748	301	492	214	1,015
Other cash income.....	1,944	1,825	3,187	3,719	5,474	1,473	3,937	478	937
Value of farm production.....	108,637	147,726	211,797	296,400	391,915	83,276	191,596	53,501	109,759
Management returns.....	-10,479	-10,789	-5,311	-3,618	-27,344	-2,878	3,335	-1,910	5,940
Farm production per \$1.00 non-feed costs	.91	.93	.98	.99	.93	.97	1.02	.97	1.06
Farm production per man.....	87,717	104,882	118,648	117,264	133,084	60,892	88,612	112,103	188,027
FINANCIAL SUMMARY									
Cash sales.....	\$238,269	\$332,356	\$456,589	\$616,301	\$837,553	\$155,114	\$294,315	\$ 51,322	\$100,606
Sales of capital items.....	598	797	1,026	304	9,455	370	0	750	945
Total cash income.....	238,866	333,153	457,615	616,605	847,008	155,484	294,315	52,072	101,551
Purchased livestock.....	125,320	166,506	278,774	371,536	487,529	59,489	118,057	2,235	2,060
Purchased feed.....	23,776	30,895	38,304	46,670	52,622	18,988	26,875	1,542	1,517
Cash operating expenses.....	44,511	60,332	82,576	117,403	180,151	36,348	87,317	23,806	43,089
Purchase of capital items.....	26,423	36,745	38,342	76,846	80,067	18,486	44,128	5,845	14,648
Total cash expenditures.....	220,030	294,477	437,996	612,455	800,369	133,311	276,377	33,429	61,313
Cash balance.....	\$18,836	\$38,675	\$19,618	\$ 4,150	\$46,639	\$22,173	\$17,938	\$18,643	\$40,237
Inventory change.....	18,430	11,745	71,149	97,034	93,060	5,169	41,451	5,870	12,547
Capital change.....	-9,514	13,812	8,935	36,848	21,601	7,961	23,452	-93	3,394
Farm products consumed.....	1,035	1,026	1,138	1,272	1,453	1,470	762	86	184
Net farm earnings.....	47,815	65,258	100,840	139,304	162,753	36,773	83,603	24,506	56,361
Operator labor and mgt. earnings.....	-193	-256	5,619	7,409	-17,382	7,708	12,842	2,709	11,667
Capital and management earnings per acre	120.43	131.62	155.97	148.90	122.57	74.99	81.57	110.03	130.64
Rate earned on investment %.....	3.88	4.22	4.63	4.90	4.04	4.43	5.06	3.84	4.72

<sup>a</sup>/ Variations in totals are due to rounding to the nearest dollar.

<sup>b</sup>/ Farms that used less than 10 months of labor were classified as part-time farms.

**Table 22a. — Average Operating Costs, Investments, and Land Use of Beef-Cattle and Part-Time Farms  
by Size and Soil Rating, Northern and Southern Illinois, 1979<sup>a</sup>**

	BEEF-CATTLE FARMS, NORTHERN ILLINOIS SOIL RATING 56-100					BEEF-CATTLE FARMS, SOUTHERN ILLINOIS SOIL RATING 36-85		PART-TIME FARMS NORTHERN ILLINOIS SOIL RATING 56-100 <sup>b/</sup>	
	260-339	340-499	500-649	650-949	950-1999	Under 500	500+	0-259	260+
Range in size (total acres).....	21	49	19	19	13	18	13	126	61
Number of farms.....									
<b>COSTS AND RETURNS PER TILLABLE ACRE</b>									
Soil fertility.....	\$ 41.18	\$ 38.60	\$ 34.88	\$ 40.70	\$ 42.18	\$ 34.41	\$ 36.81	\$ 33.09	\$ 35.59
Buildings and fence.....	24.20	29.90	23.15	27.82	20.82	18.29	14.88	13.23	8.98
Machinery and equipment.....	101.84	101.08	90.18	85.04	76.57	91.11	67.30	66.95	54.83
Labor.....	53.26	47.20	39.92	43.04	35.07	65.12	42.39	32.94	19.59
Value of feed fed.....	262.22	273.52	273.42	277.86	214.59	182.90	149.34	20.27	7.39
Feed and grain returns.....	306.23	315.88	304.73	322.45	304.05	236.06	254.06	317.79	304.40
Livestock return above feed.....	111.29	114.87	110.79	117.56	71.69	118.97	67.06	6.51	7.12
Value of farm production.....	431.34	442.15	426.91	448.30	383.79	362.76	328.72	328.56	317.16
Total non-feed costs.....	472.95	474.45	437.62	453.78	410.57	375.31	323.00	340.29	300.00
Management returns.....	-41.60	-32.29	-10.70	-5.47	-26.77	-12.53	5.72	-11.72	17.16
<b>SELECTED COST ITEMS</b>									
Fertilizer, annual.....	\$10,302	\$12,851	\$17,308	\$26,911	\$43,015	\$ 7,752	\$21,392	\$ 5,390	\$12,321
Building repairs.....	1,362	2,210	2,697	4,625	4,511	1,497	3,071	533	593
Building depreciation.....	4,734	7,782	8,791	13,770	16,757	2,703	5,603	1,622	2,516
Machinery and equipment depreciation....	11,506	14,309	19,591	25,922	32,186	7,303	15,006	3,566	7,796
Machinery repairs, supplies.....	5,528	7,193	10,113	10,435	17,497	5,589	9,222	2,220	3,298
Machinery hire.....	2,103	3,884	3,239	5,966	8,184	2,124	4,252	2,052	2,839
Gasoline and oil.....	4,212	5,785	8,474	9,673	14,892	4,150	7,663	1,943	3,478
Unpaid labor charge.....	11,739	12,601	13,963	17,629	15,013	12,719	13,775	4,820	5,826
Hired labor charge.....	1,677	3,172	5,845	10,831	20,807	2,232	10,936	544	955
Total months of labor.....	14.9	16.9	21.4	30.3	35.3	16.4	25.9	5.7	7.0
Months of labor hired.....	2.2	3.3	6.3	11.3	19.1	2.7	11.1	.5	.7
<b>FARM INVESTMENT</b>									
Livestock inventory.....	\$113,023	\$153,200	\$239,616	\$321,409	\$397,719	\$65,937	\$170,492	\$ 4,026	\$ 5,538
Grain inventory.....	48,672	69,955	94,681	136,480	168,477	29,291	61,553	32,612	66,734
Remaining capital cost in									
Machinery and auto.....	46,596	52,180	63,857	98,434	129,722	28,720	57,702	14,007	31,428
Buildings and fence.....	45,853	83,805	84,888	140,031	160,523	19,515	40,911	15,561	26,160
Soil fertility.....	501	94	0	0	321	412	321	0	0
Value of land (current).....	675,350	889,025	1,391,828	1,789,193	2,799,289	399,540	1,048,676	446,769	940,239
Total farm investment.....	929,994	1,248,259	1,874,870	2,485,548	3,656,050	543,415	1,379,655	512,975	1,070,100
Total investment per acre.....	3,104	3,120	3,366	3,042	3,033	1,694	1,612	2,867	2,766
Machinery investment per tillable acre..	185	156	129	149	127	125	99	86	91
<b>PERCENT OF TILLABLE LAND IN</b>									
Corn and corn silage.....	72.4	70.6	69.9	75.7	73.6	39.8	42.6	54.3	58.0
Soybeans.....	5.0	10.0	8.4	8.6	13.6	16.7	27.0	39.3	35.1
Wheat.....	1.4	.8	.3	.2	1.2	13.8	9.5	1.2	.5
Other small grains.....	2.9	2.7	3.6	2.2	1.3	.0	.3	1.1	.3
Diverted acres.....	2.0	1.5	2.2	.9	.1	2.1	.5	.8	.8
All hay and pasture crops.....	17.1	12.8	15.1	11.8	7.6	27.5	16.5	2.2	2.2
<b>CROP YIELDS, bu. per acre</b>									
Corn.....	136	134	135	136	132	113	122	136	130
Soybeans.....	47	47	44	45	45	42	41	43	42
Wheat.....	76	60	67	72	69	52	41	50	53
Oats.....	68	71	70	75	83	0	72	68	50

<sup>a/</sup> Variations in totals are due to rounding to the nearest dollar.

<sup>b/</sup> Farms that used less than 10 months of labor were classified as part-time farms.

# ASSOCIATIONS, FIELDMEN, AND COOPERATORS ENROLLED

## BLACKHAWK 709

Charles M. Roodhouse  
Kristian S. Lauritzen  
Lee K. Freedlund  
Benjamin A. Greiner  
Richard Tanton  
John D. Jones

## WESTERN 917

Robert R. Tracy  
Thomas H. Jennings  
Kenneth F. Stevens  
Robert W. Baalman  
James L. Marshall  
Gary Goodwin  
Roy L. Ewalt  
Darrell L. Duntzman

## SANGAMON VALLEY 730

Charles E. Botterbusch  
George W. Shafer  
Dorrence E. Brucker  
William H. Hamer  
Michael Barton  
Jay Baxter

## LINCOLN 1625

Arnold A. Galloway  
Wayne W. Marquart  
Robert E. Rogers  
Michael E. Schmitz  
Allen D. Koker  
Thomas J. Nolte  
John E. White  
Dennis J. Graden  
Robert C. Peverly  
James H. Lutz  
Louis J. Aldag  
Donald L. Hampton

## NORTHEASTERN 456

Donald R. Muehling  
William D. McMurtury  
George J. Young  
Matthew Hickey

## ILLINOIS VALLEY 894

Gerald E. Hulslander  
Stephen R. Kingry  
Grant W. McGill, Jr.  
Erland A. Loving  
Vern R. Grabbe  
Danny L. Stetson  
Bruce E. Burk

## PIONEER 1290

Keith W. Amstutz  
Jerry Crump  
Roland W. Meyer  
L. David Schroll  
Alvin T. LaMar  
Maurice E. Sprout  
Aaron Liesman  
Michael G. Bossert  
Marvin Siekman  
Gary Norem  
Dana Scheidecker

## EASTERN 546

Boyd A. Henry  
Harry E. White  
James H. Locher  
Gary E. Bressner  
Paul Ruesink

## EAST CENTRAL 741

Rolland D. Gustafson  
Warren E. Berner  
Mike E. England  
Dale Lattz  
Dennis Martin  
Paul Freebairn

## SHAWNEE 297

Fred B. Lemmon  
Robert D. Kieseoms

- \* Numbers are Enrollment Totals  
67 ⊕ Field Staff Office (Home)  
8 ⊙ District Record Processing Office  
† State Office

